Rebro[®]2022

Operation Guide ~Sanitary Section~



Chapter 2 Sanitary Section

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Reference drawing: Sanitary4.reb

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Reference drawing: Sanitary5.reb

1.Set up a drawing screen

How to add layouts

You can handle drawings of different paper sizes or scales as one file by adding layouts.

One layout becomes one sheet of drawing.

Now add an A1-size layout to create a drawing of sanitary pipes.

- 1 Left-click the icon next to Layout tab.
- Type "Sanitary" into the name in [Making of layout] dialog box.
- 3 Checkmark "Specify paper size newly" to select A1 for the paper size of a layout.
- 4 Checkmark "Make floor plan view" to add a layout that has a placed plane view.
- 5 Checkmark "Make the view name the same as the layout name". The view name always becomes the same as the layout name.
- 6 Left-click [OK].
 →A layout named "Sanitary" is added.

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How to adjust a display position of views

Display on an enlarged view water closet surroundings where you draw sanitary pipes.

- 1 Left-click [Fitting] in [▼] next to the
 - view name.
 - $\rightarrow\!\!\mathsf{Rebro}$ adjusts the scale and
 - display position to show all
 - elements in the view.



2 Left-click [Change scale]-[Area specification] in [▼] next to the view name.



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3 A guidance message appears saying as follows: "Specify a enlarge area". Left-click two points on the opposite corners to specify the area between the third and fourth lines.
 →Rebro adjusts the scale to show the specified area into the view.

Memo

If the scale becomes anything other than 1/20, you can specify the scale by [Change scale].

→Rebro adjusts the scale and display position to show the area that is surrounded by [Change scale]-[Area specification] into the center of the view.

Orag the wheel button while pressing Ctrl key to fine-tune the display position in the view.



2. Place sanitary equipment

How to place sanitary equipment

- Left-click [Equipment] tab-[Restroom].
- 2 Select [Placement of chair closet] dialog-"Chair closet"-" Chair toilet for public -TOTO"-"Middle silhouette closet" - "CS860B+TC970W".



- 3 Left-click [OK].
- Type "0" into the height and select "1FL".
- **5** Select "Double line", "Make double line in all views".
- 6 Left-click the arrow buttons in [Rotation] on the context menu (a right-click menu) to adjust the placing angle, and close the context menu.

Memo Press x on the upper right of the context menu or right-click, to close the context menu in the command.





Change of the base point Reset of the base point Returns (Back Space) Rebro2022 Operation guide

• Supplementary explanation:

Select [Change of the base point] on the context menu (a right-click menu) while the equipment appears temporarily on the screen, to show multiple handles on the equipment for placing reference positions. Left-click the handle to change a reference position, if you place the equipment based on the connecting position to a drainage or water pipe.



- A guidance message appears saying as follows: "Specify position to locate". Drag the intersection point between a lining and wall to the right.
- 8 Type the distance into the blank by Measure.
 - **450**
- 9 Left-click *et al.* icon or press Enter to confirm.
- Place similarly other Sanitary fixtures.

"Urinal-TOTO Automatic washing urinal giatect UFS820CE"

"Lavatory-TOTO Wall hung lavatory-Rectangle shape lavatory(vessel type) L710C + TLC11A + TN115 (wall drainage) (wall hung type)"





• Supplementary explanation:

Specify the area by [Tool] tab- [Room] before you place the equipment, to set a room name. Then you can specify the height to place the equipment based on room information.



Select [Placement of equipment]-[Height] ribbon-[Place to room] to enter the height from "Floor" or "Ceiling" as the reference position for placing.



How to place cleanouts

1 Left-click [Pipe] tab- [Water supply or drainage fittings].

Home

Figure

Pipe Duct

Electric

Instrument

Equipment

Sleeve or insert

Collecting pipe

Building

Tool

Connection

Processing

Add-ins

View

Height change

- 2 Select [Insertion of water supply or drainage fittings] dialog box-"Cleanout, strainer fitting"-"Cleanout"-"COA inner screw type"-Size "100".
- 3 Left-click [OK].

- 4 Checkmark [Height] and type "0" into the blank to select "1FL".
- 5 Left-click the arrow buttons in [Rotation] on the context menu (a right-click menu) to adjust the placing angle, and close the context menu.





- 6 A guidance message appears saying as follows: "Specify position to locate". Drag the intersection point between 4 and C lines to the lower right direction.
- 7 Type the distance into the blank by Measure.
 - **5**50
 - **1400**
- 8 Left-click *et al.* icon or press Enter to confirm.
- 9 Place similarly other cleanouts.





• Supplementary explanation:

By [Equipment] tab- [Mechanical equipment (Stem)], you can place equipment that are compliant with "Stem" (Standard for The Exchange of Mechanical equipment library data), which are provided with CD-ROM or data-download function.

lectric Equipm	ent Sleeve or insert	Building Tool Processing View Add-ins	
🗎 Gas meter	Electrical	🔲 🖉 Machine foundation 🕅 🕅	Mechanical equipment (Stem)
📮 Tanks	facility	📥 👌 Supporting hanger 🔍	User's Maker's Maker's
	📣 Luminaire 🛛 🔻	Steel 🔻 🕼 Support steel 🔹 Standard / seismic support 🔻	parts parts 🗡 User connection face 🔻
Gas appliance	Electric	Steel, Support, Foundation	Others

3. Draw pipes

How to set up pipe materials

Set up combinations (Materials subset) of pipe materials and fittings that you draw.

You can use the initial value settings without changes.

You can similarly draw on another PC with the same material subsets that are saved in the drawing. You can also add or overwrite the setting details in another drawing.

Now add a setting for ventilation and use existing settings for soil water, wastewater, and water supply.

- Left-click [Pipe] tab- [Setting of materials].
- 2 Left-click [Setting of materials] dialog box-[Addition].
- 3 Type a subset name into [Addition of subset name] dialog box to leftclick [OK].
- Select "Pipe materials-Hard polyvinyl chloride pipe-VP·VU Hard polyvinyl chloride pipe-VP" to left-click [OK].

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Setting of materi	als 1	Choose route	s _ Sel	lect mode	
Setting of use	Ť	systematically	•	🗣 🖻	
Other setting	- c	ption	😡	Group	
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- 5 Left-click [Set up material] dialog box- [Fitting and, duct fitting]-[Addition].
- 6 Select [Select of fitting and duct fitting] dialog box-"Hard polyvinyl chloride pipe fitting-Hard vinyl chloride pipe fitting for drainage(DV fitting)" to left-click [OK].
- Set up to draw with short type fittings such as elbows or tees in preference to others.
 In [Set up material] dialog box, Select the row of fittings to left-click [Placement method].

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How to set up uses

Set up attributes of uses, which are used as initial values to represent a single line or to create layers. You can similarly draw on another PC with the same attributes of uses that are saved in the drawing. You can also add or overwrite the setting details in another drawing.

Now we explain the way to confirm or change the settings.

 Left-click [Pipe] tab- [Setting of use]. 	Construction Image: Construction Setting of materials Choose routes systematically Setting of use Setect mode Other setting Option Setting Option Setting Element
 2 Select the name of use in [Setting of use] dialog box to confirm or edit the descriptions. 3 Left-click [Editing] button. 	Setting of use X Use name Code Materials subset Line class of single line Thickness of single is Sanitary - water supply and drainage Water supply Water supply Sold line 0.30mm Hot water supply - I - Hot water sup. Copper pipe (Mtype) Sold line 0.30mm Hot water supply - I - Hot water sup. Copper pipe (M type) Sold line 0.30mm Sold water -> Sold water supply Sold line 0.50mm Sold water -> Sold water supply Sold line 0.50mm Vertilation Polyving chloride pipe (VU) + VU-DV fitting Sold line 0.50mm Vertilation Polyving chloride pipe (VU) + VU-DV fitting Sold line 0.30mm Vertilation Polyving chloride pipe (VU) + VU-DV fitting Sold line 0.30mm Vertilation Sele pipe (GGP-VB) + screw Sold line 0.30mm Potable water
Confirm or edit the descriptions in [Editing of use] dialog box to left- click [OK]. In add up, you can add them up with a name you set here. If you add up separately even in the same use, add an use to set another name. Single pipe symbol, size annotation code, and vertical pipe symbol are affected by these descriptions.	Editing of use Vision Sanitary - water supply and drainage Use Water supply Name Water supply Attribute of use Initial value of command Thermal insulation Design Code Character string O Line class Water supply pipe (portable water) No symbol Setting of single line Hiting symbol subset J _L_ General Setting of duct Duct section mark Nothing Use to support Water supply, the hot water supply pipe "Water supply water supply water supply water supply of BE-Bridge Use to support Water supply, the hot water supply pipe "Water supply water supply water supply water supply of Cancel
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How to set up layers

Set up layer attributes, necessary to draw pipe, such as uses and materials in addition to designs such as color and line thickness. Draw pipe, with the attributes that are set up on the selected layer when you draw the route.

You can similarly draw on another PC with the same layer that are saved in the drawing. You can also save the setting details, which can be read from another drawing.

Now set up layers for "Soil water", "Waste water", "Ventilation" and "Water supply" that we are drawing.

- Left-click [View] tab- [List of layers] or [Layer] on a Quick Access Toolbar.
- 2 Left-click [List of layers] dialog box-[Sanitary] to show a Sanitary pipe layer.
- **3** Select the Layer name.
- 4 Left-click [Change of setting contents] on the context menu.
- 5 Select the material in [Editing of layer] dialog box.
- 6 Left-click [OK].
- In like manner, change the following materials settings:
 Soil water: Polyvinyl chloride lining steel pipe (DVLP) + for the drainage MD fittings
 Waste water: Polyvinyl chloride pipe (VP) + DV fitting / TS fitting
 Ventilation: VP + DV (Ventilation)
 Water supply: Polyvinyl chloride pipe (VP for water supply) + TS fitting



Setting

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Edit group

Editing of laye	r			×							
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Group name	Sanitary	, 									
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Change the Layer allows	C Calor C Calor C Calor Thickness Line class C Calor Thickness Line class C Calor Thickness Line class C calor Thickness C calor C c										

How to draw vertical pipes

Draw a vertical pipe for sanitary pipes in pipe shaft.

- 1 Left-click [Pipe] tab- [Vertical pipe].
- 2 Select "Division"-"Sanitary-Water supply and drainage", "Layer"-"Soil water".
- 3 Select "Size"-"100" or type "100" into the blank.
- Type the height for both ends of a vertical pipe. On the one hand, type "-1500" into the blank and select "1FL".

On the other hand, type "0" into the blank and select "2FL".

- 5 A guidance message appears saying as follows: "Specify location for making pipe". Drag the intersection point between 4 and C lines to the upper right direction.
- 6 Type the distance into the blank by Measure.
 - **5**50
 - 900
- 7 Left-click *icon or press Enter* to confirm.
- Braw similarly three other routes.
 ※Refer to the positions at the next page to draw those routes.



Materials Polyvinyl chloride pipe (VP for

Single line

4

- Solid

O Double line

upply) + TS fitting

1

as 🚜 📩 Water supply

- 0.20mm

Lave



• Supplementary explanation:

If you add a vertical pipe on the piping conduit, select [Pipe] tab- [Pipe] to specify the height of a rise-up pipe(or a go-down pipe), and then left-click the point on the line or the endpoint.



• Supplementary explanation:

Checkmark [Thermal insulation] on the ribbon when drawing pipe or vertical pipe, to draw pipes with thermal insulation being set.

Tool Processing View Add-ins 🥖 Route draw	wing pipe	
Center height -900 mm - 1FL -	Sloped piping value 0 ~	✓ Thermal insulation Depends on the use ∨
🏠 🜙 100 mm 🗸 🗸	🕨 Forward down 🔰 Forward up	Thickness 20 mm 🗸 🔽 Indication
	Angle of vertical pipe 90° \sim $@$	Indication of flow direction
Height	Angle	Thermal insulation, flow
	1	
		Checkmark [Indication] to draw with thermal insulation shown
L	0 °, 420 mm 1FL-900	

When you select "Depends on the use settings", Rebro reflects the thermal insulation thickness set for each use.

XSee also page 12 for [Setting of use].

Division	Sanitary - water supply an	d drainage	~			
lse	Soil water		~			
Name	Soil water					
Attribute of use I	Initial value of layer Initial v	alue of command	Thermal insulation	Design		
Thermal insulation	n 🧿 Exist 🔘 Nothing)				
Thermal insula	ation thickness	Thermal insi	lation thickness[mm]			
80		20			Thermal insulation	n thickness can be set for
150		25			each size.	
Over, more that	an	40				004
						8()A
Add	Edit Delete	Apply setti	ngs to other uses			
					L	
				C		

When selecting "Manual operation", you can set thermal insulation thickness on the ribbon.

Tool I	Processing	View	Add-ins	-	Route dra	wing pipe					_						
Center heig	nt 💌	-900 mm	~	1FL	•	Sloped	piping value	0	~	•		Thermal ins	ulation	Manua	оре	ration	~
	🏠 🌽	100 mm			\sim		Forward down	4	Forward up			Thickness	20 mm	~		Indicati	ion
						Angle o	f vertical pipe	90	· · · · · ·	0		Indication of	f flow dire	ction	\Box	Flow reve	ersal
Height						Ang	gle					Thermal ir	nsulation	flow			

When you set up thermal insulation after drawing, go to [Pipe] tab- [Offer thermal insulation]. If you switch between Show/Hide [Thermal insulation], change [Pipe] tab- [▼] next to [Offer thermal insulation]- [Switch insulation indicate/nonindicate].

Draw			Roi	ute editing		Size	Switch insulation indicate / no	nindicate	
Vertical pipe	💋 Fittings	💟 Pit	Refrigerant pipe rack	Trim route	Other editing 🔹	🤨 Flowmeter	Resize pipe automatically	\blacksquare Offer thermal insulation \blacksquare	Size annot
		🚺 Water supply or drainage fittings	🗇 Refrigerant unit	Division 🔹	🕶 <table-cell-columns> Sloped piping 🛛 💌</table-cell-columns>	Uncaize	Setting of flow volume	-S- Switch to single line 🔹 🔻	
Pine	T Valve	P Instrument	Collecting pipe	Connection	🕶 🏠 Height change 📼	Pariza	Setting of flow	🚅 Attribute copy	50
🖭 Home R	igure Pipe	Duct Electric Equipment	Sleeve or insert Building	Tool Processi	ng View Add-ins				

How to draw routes for soil water pipes

Draw a horizontal main pipe from a vertical pipe



Left-click [Decision] on the context menu (right-click) to complete commands.

6

Water boiler room

90 * , 2300 mm (Connection point(1) of Drainage metal fittings, insectdefence net) 1FL-900 1/10 (Space=next candidate, Ctrl+Space=last candidate)

Draw a horizontal main pipe for soil water, from a cleanout

 Left-click the cleanout, press Shift to show a handle for drawing routes (yellow).

Memo Equipment registered in Rebro can be drawn with the stored information about connecting point.

- 2 Left-click the handle. The descriptions on the ribbon change to [Route drawing figure].
- **3** Select "Layer"-"Soil water".
- Yppe "-900" into the height of a horizontal pipe and select "1FL".
 →Rebro draws a vertical pipe automatically from the connecting height of a cleanout up to the piping height you typed.

Memo

Typed history of the numeric value for [Height] are saved up to ten pcs., from which you can also select.

A guidance message appears saying as follows: "Specify position to make pipe." Bring the pointer onto the main pipe that you connect and leftclick the position where fittings appear, to connect.



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• Supplementary explanation:

The direction of fittings can be determined automatically. If you want to change the direction, checkmark [Reverse direction] on the context menu, and specify a point on the line of route to connect.



If you want to change after drawing, use [Pipe] tab- [Other editing]-[Reverse of direction], or [Reverse of direction] on the context menu.

Draw branch pipes connecting to equipment

- Left-click a Western-style toilet bowl to show a handle for drawing routes (yellow), then left-click the handle.
 →The descriptions on the ribbon change to [Route drawing figure] and the following appears: uses, size, and connecting height (the previous value in the case of floor drainage/water supply), which were set up in the equipment.
- 2 Type "-900" into the height of a horizontal pipe and select "1FL". →Rebro draws a vertical pipe automatically from the connecting height of a Western-style toilet bowl up to the piping height you typed.



- 3 A guidance message appears saying as follows: "Specify position to make pipe." Left-click a point on the line of the main pipe to connect.
- 4 Draw similarly other branch pipes.





• Supplementary explanation:

In addition to the above, [Equipment connection] or [Pattern drawing] commands can be used to draw branch pipes that connect to equipment. [Equipment connection] command targets equipment that has stored information about connection points.



How to draw routes for waste pipes

Draw a horizontal main pipe from a vertical pipe

- 1 Left-click [Pipe] tab-[Pipe].
- 2 Select "Layer"-"Waste water".
- 3 Select "Size"-"75" or type "75" into the blank.
- Type "-900" into the height and select "1FL".
- 5 A guidance message appears saying as follows: "Specify position to make pipe." Left-click the snapped point of a Vertical pipe ("Edge of pipe" and so on) to connect to a Vertical pipe.
- 6 Bring the pointer close to the center point of a cleanout to left-click the position where [Connection point (1) of Drainage metal fittings, insectdefence net] appears in the tooltip.

 \rightarrow Rebro draws a straight pipe up to the cleanout position.







7 Bring the pointer close to the center point of a cleanout to left-click the position where [Connection point (1) of Drainage metal fittings, insectdefence net] appears in the tooltip. Left-click the center point of a cleanout \rightarrow Rebro draws a straight pipe to connect to the cleanout. Memo 90 °, 200 mm (Connection point(1) of Drainage metal fittings, insectdefence net) 1FL-900 Checkmark [View]tab- [Drawing 1/35 (Space=next candidate, Ctrl+Space=last candidate) expression]tab-[Pipe, duct, and electricwire common]-[Proper placement check]-[Proper placement check], to show "x" if the fitting does not fit into the space. 8 Left-click [Decision] on the context menu to end the command. 9 Switch a 90-degrees elbow to 45degrees elbow in order to fit the Left-click a handle for moving (blue) fitting into the space. Left-click the elbow to show a handle 0 Move element. for moving (blue), then left-click the handle. Memo Left-click the handle for moving fittings, a numerical value is entered in [Coordinates]-[Pitch] automatically so that the elbow becomes 45-degrees. Pitch 200 mm Angle 180 Reference 0[°] Option Element Coor 10 A guidance message appears saying as follows: "Specify move point". Bring the pointer into the moving direction and left-click the position The pitch on where a 45-degrees elbow appears. [Coordinates]

Draw a horizontal main pipe for wastewater, from a cleanout

- Left-click the cleanout, press Shift to show a handle for drawing routes (yellow).
- 2 Left-click the handle.
 →The descriptions on the ribbon change to [Route drawing figure].
- 3 Select "Layer"-"Wastewater".
- Ype "-900" into the height of a horizontal pipe.
 →Rebro draws a vertical pipe automatically from the connecting height of a cleanout up to the piping height you typed.
- 5 A guidance message appears saying as follows: "Specify position to make pipe." Bring the pointer into the direction of a main pipe that you connect and left-click a point on the line to connect to the horizontal main pipe.



Draw branch pipes connecting to equipment

- Left-click a washstand bowl, and press Shift to show a handle for drawing routes (yellow).
- 2 Left-click the handle.

→The descriptions on the ribbon change to [Route drawing figure] and the following appears: uses, size, and connecting height, which are stored in the equipment.

- Type "100" for pipe length with the keyboard. The entered numerical value appears in the field
 [Distance=] on the status bar.
- 4 Bring the pointer into the drawing direction and left-click there or press Enter.





Rebro2022 Operation guide

5 Change the height. Type "-900" into the changing height on the context menu to close the menu.

Memo

Press x on the upper right on the context menu or right-click, to close the context menu in the command.

- 6 Left-click the position to create piping.
- Deft-click the main pipe to connect.
- 8 Draw similarly other branch pipes.







How to draw routes for vent pipes

Draw a horizontal main pipe from a vertical pipe

- 1 Left-click [Pipe] tab- [Pipe].
- 2 Select "Layer"-"Ventilation".
- 3 Select "Size"-"75" or type "75" into the blank.
- Type "1500" into the height and select "1FL".
- A guidance message appears saying as follows: "Specify position to make pipe." Left-click the snapped point of a vertical pipe ("Edge of pipe" and so on) to connect to a Vertical pipe.
- Type "290" for pipe length with the keyboard. The entered numerical value appears in the field [Distance=] on the status bar.
- Pring the pointer into the drawing direction and left-click there or press Enter.



Center height	▼ 1500 mm	~ 1FL	•	Sloped piping value	0 ~	□ Thermal insulation Depends on the use ∨
	🏠 🤳 100 mm		~	Forward down	🗲 Forward up	Thickness 20 mm 🗸 💟 Indication
4				Angle of vertical pipe	90 ° 🗸 🖉	Indication of flow direction Row reversal
	Height			And	le	Thermal insulation, flow



Rebro2022 Operation guide

8 Change the height.

Type "-400" into the changing height on the context menu, and close the menu.

9 Draw a route and left-click a horizontal main pipe for soil water to connect to the vent pipe.





Pick out a branch pipe on the route

 Left-click a vent pipe and select [Addition of branch pipe] on the context menu.



- Type "50" into the size on the context menu to close the menu.
 The initial value of the height is "The same as main pipe" in [Addition of branch pipe] command.
- 3 A guidance message appears saying as follows: "Specify position picking up branch pipe". Left-click the position to pick out a branch pipe.
- 4 Left-click a waste pipe to connect to a vent pipe.

4 Decision	(Enter)	×						
Division 💌	Sanitary - water supply and drainage	\sim						
Layer	♦ 🔏 🔲 Ventilation 🗸 🗸							
Material	VP+DV(Ventilation)	\sim						
Size	50 🗸 2	۲						
Center heigh	t 🔍 The s 🗸 1FL 💌							
	술 🤳 100 mm 🗸 🗸							
Slope value	0 V S Forward down S Forward u	p						
Angle of vert	ical pipe 90 ° 🗸 🞯							
Thermal	insulation Manual operation \checkmark							
Thickne	ss 0 mm 🗸 💽 Indication							
Indicatio	n of flow direction Flow reversal							
🗌 Do not c	onnect to other routes 🛛 🔞							
Rivises of the second secon	coordinate by considering route as standard 🛛 🔞							
┥ Returns	(Back Space)							
🗙 Cancel (I	ESC)							





How to draw routes for water pipes

Draw a horizontal main pipe from a vertical pipe

- Left-click [Pipe] tab- [Pipe].
- Select "Layer"-"Water supply".
- Select "Size"-"30" or type "30" into the blank.
- Type "1500" into the height and select "1FL".
- A guidance message appears saying as follows: "Specify position to make pipe." Left-click the snapped point of a Vertical pipe ("Edge of pipe" and so on) to connect to a Vertical pipe.
- 6 Type "180" for pipe length with the keyboard. The entered numerical value appears in the field [Distance=] on the status bar.
- Bring the pointer into the drawing direction and left-click there or press Enter.







8 Change the height.

Type "-900" into the changing height on the context menu to close the menu.

9 Draw a main route.

*Extend the end portion a little longer so that a branch pipe can be easily connected.

After the connection, delete the surplus route. (See also page 39)

¹⁰ Left-click [Decision] on the context menu to end the command.

V Decision	(Enter)	×
Division 💌	Sanitary - water supply and drainage	\sim
Layer	🔿 🌄 🔲 Water supply	\sim
Material	Polyvinyl chloride pipe (VP for water supply) + TS fitting	\sim
Size	30 🗸	۲
Center heigh	t 🔻 -900 mm 🗸 1FL 🔻 🕙	
	😭 🜙 100 mm 🗸	
Slope value	0 V S Forward down S Forward up	,
Angle of vert	ical pipe 90 ° 🗸 🛞	
Thermal	insulation Depends on the \vee	
Thickne	ss 20 mm 🗸 🔽 Indication	
Indicatio	n of flow direction 📃 Flow reversal	
🗌 Do not c	onnect to other routes 🛛 🔞	
Rivises c	coordinate by considering route as standard 🛛 🔞	
Returns	(Back Space)	
🗙 Cancel (I	ESC)	

40 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 11 12 13 14 15 16 16 17 10 </tr

Draw branch pipes connecting to equipment

 Left-click a washstand bowl to show a handle for drawing routes (yellow), then left-click the handle.
 →The descriptions on the ribbon change to [Route drawing figure] and the following appears: uses, size, and connecting height, which are stored in the equipment.



🖭 Home	Figure Pij	be Duct	Electric	Equipmer	t Sleeve or insert	Building	Tool Processin	g Vie	w Add-ins	Route drawing figure						
Division 💌	Sanitary - water	supply and d	~	Size 13	~			۲	Center height	▼ 460 mm	✓ 1FL	Slop	oed piping value	0 ~		Themal insulation Depends on the use
Layer	ම සි 🗖 Wat	er supply	-	Materials	Polyvinyl chloride pipe (V	P for water sup	oply) + TS fitting 🗸	n n n n n n n n n n n n n n n n n n n		🏠 🤳 100 mm	~		Forward down	# Forward up		Thickness 20 mm 🗸 💟 Indication
	0.20mm	Solid.	. 🛃	O Double	line O Single line			4				Ang	le of vertical pipe	90 *	0	Indication of flow direction Flow reversal
	Layer				Draw	ing method				Height			Ang	gle		Thermal insulation, flow

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- 2 Type "100" for pipe length with the keyboard. The entered numerical value appears in the field [Distance=] on the status bar.
- 3 Bring the pointer into the drawing direction and left-click there or press Enter.
- Change the size. Type "20" into the changing size on the context menu to close the menu.
- 5 Left-click the position to create piping.







- 6 Change the height. Type "-900" into the changing height on the context menu to close the menu.
- Left-click the main pipe to connect to the branch pipe.
- 8 Draw similarly other branch pipes.

🛹 Decision	(Enter)	×
Division 💌	Sanitary - water supply and drainage	\sim
Layer	🔿 🖓 📩 Water supply	\sim
Material	Polyvinyl chloride pipe (VP for water supply) + TS fitting	\sim
Size	20 ~	۲
Center heigh	ıt 🔻 -900 mm 🗸 1FL 🔻 💪	
	🏠 📮 100 mm 🗸	
Slope value	0 V S Forward down S Forward up)
Angle of vert	tical pipe 90° V	
Thermal	insulation Manual operation \vee	
Thickne	ss 0 mm 🗸 💽 Indication	
🗌 Indicatio	n of flow direction 📃 Flow reversal	
🗌 Do not c	connect to other routes 🛛 🔞	
Rivises of the second secon	coordinate by considering route as standard 🛛 🔞	
Returns	(BackSpace)	
关 Cancel (ESC)	





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How to add valves

Add valves to water pipes in a shaft.

- 1 Left-click [Pipe] tab- [Valve].
- 2 Select [Insertion of valves] dialog box-"Gate valve"-"Gate valve made of bronze - Kitz"-"Screw type JIS5K".
- 3 Left-click [OK].
- 4 Checkmark [Height] and type "1300" into the valve height, then select "1FL".
- 5 A guidance message appears saying as follows: "Specify position to locate". Point the vertical pipe with a pointer to show a temporary valve so that the color becomes the same as the pipes.





- 6 Left-click arrow buttons in [Rotation] on the context menu to adjust the valve direction.
- Left-click [Decision] to add a valve on the route.
- 8 Left-click [Decision] on the context menu to end the command.

4 Decision (Enter)	× ×	
Change of parts		
I Height 1300 mm	- 1FL 🔻	
Rotation 6		
	tch 90 V Reset	
Change of the base point	Specify the placing a	angle.
Reset of the base point	Yellow arrows rotate	e equipment on a plane and
Returns (BackSpace)	green arrow rotate i	t about the axis.
X Cancel (ESC)		
	XYou can specify th preview screen in	e placing angle in advance on a [Insertion of valves] dialog box.



4.Edit pipes

How to choose the route for pipes

Use [Element] panel- [Choose routes systematically], [Extend the route choice], and [Choose section on the route] to choose successive piping routes. You can edit smoothly by choosing routes systematically or selecting routes that match the condition. You can also select a route on the context menu.



Choose routes systematically

Choose an element on the route and left-click [Choose routes systematically] to choose all routes for the same use in the system.

Extend the route choice

Choose an element on the route and select the expansion type. Left-click an arrow that appears on the chosen route to select the direction. Left-click between two arrows to choose all routes that elongate to both direction.



Choose section on the route

Choose the section between the two elements on a route. Left-click the first element, the second element, and [Choose section] in turn.

How to resize pipes

Resize a water pipe on the route of a straight pipe.

- 1 Left-click the pipe.
- 2 Left-click "▼" next to [Choose routes systematically] to select [Extend the route choice]-[Up to the end].
- 3 Arrows appear on the chosen pipe.
 Left-click the arrow for the direction where you want to change the size.
 →The target pipe is chosen.







- 9 Left-click [Change of size] on the context menu to select "50" for the changing size.
- Left-click [Decision] to end the command.



• Supplementary explanation:

Uncheck [Change only part which was chosen] in edit command of piping to extend route choice automatically based on the chosen route.

Change only part which was chosen
Change only pair which was chosen
Movement condition

Command	Extended area
Height change	Change the routes height including other routes that are the same height as the chosen route
Sloped piping	Give a slope to routes including other routes that has the same use as the chosen route
45 degrees sloped piping	Give a 45-degrees slope to the routes including other routes that are the same height as the chosen route
Cancellation of sloped piping	Reset the slope and level routes including other routes that has the same use as the chosen route
Offer thermal insulation	Add thermal insulation to whole routes that are connected to the chosen route
Change of size	Resize the routes including other routes that are the same size as the chosen route, however excludes the branch routes
Movement	Move straight routes (incl. a Vertical pipe) on the specifying view
Rotation Rotating and copy	Rotate straight routes (incl. a Vertical pipe) beyond a base point on the specifying view. Rotate and copy straight routes (incl. a Vertical pipe) beyond a base point in the specifying view

How to delete pipes

1 Left-click the pipe and [Deletion] on the context menu.

→The specified pipe is deleted. Rebro changes the fittings shape according to the connecting state of the pipe.







• Supplementary explanation:

[Deletion (shape keeping)] leaves without changes the fitting that are connecting to the route.



How to move pipes

Move the pipes and adjust the gap measurement between the base line and the actual center line.

- 1 Left-click the pipe (a vent pipe) to move.
- 2 Left-click a handle for moving (blue).
- A guidance message appears saying as follows: "Specify move point".
 Drag the point on a line of the center line for a soil water pipe, the reference position, into a downward direction.
- Type the distance into the blank by Measure.
 - 200
- 5 Left-click icon or press Enter to confirm.
- 6 Move similarly other routes.







How to bend a branch pipe into a 45-degrees angle

Move fittings to change the route shape.

- Left-click the piping conduit that you want to bend into a 45-degrees angle, then left-click [Division] on the context menu.
- A guidance message appears saying as follows: "Specify division position". Drag the point on a line of the main pipe in a downward direction.
- 3 Type the distance into the blank by Measure.
 - **3**00
- 4 Left-click *licon* or press Enter to confirm.

Memo

The route located downstream from the position where [Division] is executed goes out of scope of automatic extension for the route choice in [Height change], [Movement], and [Rotation]. (See also page 38 for a supplementary explanation)

5 Left-click the fitting to show a handle for moving (blue).



Ð



7 A guidance message appears saying as follows: "Specify move point." Bring the pointer into the moving direction and left-click the position where a 45-degrees elbow appears.



30

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How to change the height

Change the height of a main pipe for a water pipe.

- 1 Left-click the pipe.
- 2 Left-click "▼" next to [Choose routes systematically], to select [Extend the route choice]-[The same height].
- 3 Arrows appear on the chosen pipe. Left-click the arrow for the direction where you want to change the height.

v L

 \rightarrow The target pipe is chosen.



- 4 Left-click [Height change] on the context menu.
- 5 Select the way to change "Absolute".

Memo If you select "Absolute", you can select the piping height reference from the following: "Automatically", "Top end", "Center", "Bottom end", "Top end (include thermal insulation)" or "Bottom end (include thermal insulation)". In the case of "Automatically", "Center" serves as the reference for pipes, and "Bottom end" for rectangular



6 Checkmark [Change only part which was chosen].

- Type "-400" into the changing height and select "1FL".
 →The changed height appear temporarily.
- 8 Left-click [Decision] on the context menu to execute the change.



Left-click the handle [\checkmark] or [\checkmark] that appears on the chosen pipe to start [Height change], and you can change the height with the value entered in "Continuation". With each click, the height is changed by the entered value.

Click [🦆] to go down, and [🎓] to go up.



How to raise up a branch pipe of a soil water pipe into a 45-degrees angle

- 1 Left-click a branch pipe for soil water.
- 2 Left-click [Sloped piping]-[45 degrees sloped piping] on the context menu.
- 3 Select the way to change "Absolute".
- 4 Type "-600" into the changing height and select "1FL".
- 5 Checkmark [Change only part which was chosen].
- 6 Left-click [Decision] on the context menu to execute the change.

▼1FL





How to change a fitting type

Change the fitting of the connecting point between a vent pipe and a drainage pipe from a 90-degrees big bend Y to a 90-degrees Y.

- Left-click a tees connecting a soil water pipe and a vent pipe.
- 2 Left-click [Editing of parts] on the context menu.
- 3 Select "Flexible fitting (MD joint) for drainage steel pipe"-"Tee"-"90°Y" in the dialog.
- 4 Select "Only selected parts"

Memo "Only selected parts " option allows you to edit the chosen parts. "All the same parts on the drawing" edits all the same parts on the drawing that match the selected part in terms of size, use, and layer.

5 Left-click [OK].

6 Change similarly the tee connecting a waste pipe and a vent pipe to "Hard vinyl chloride pipe fitting for drainage (DV fitting)-"Tee"-"Unequal 90° Y".







How to switch from a double line into a single line

You can switch between a single line \Leftrightarrow a double line after drawing routes. Now, for example, switch a water pipe into a single line.

In each view, you can select the expression with a single line or a double.





• Supplementary explanation:

You can set a symbol size of a single line by [Pipe] tab- [Other setting]-[Set up single-line symbol] for each scale.

Use mark fitting symbol (basics) fitting symbol (detail) Vertical pipe Valves, damper symbol Automatic placement distance 80 mm Automatic placement minimum distance 25 mm	Use mark fitting symbol (basics) fitting symbol (detail) Vertical pipe Valves, damper symbol	Use mark fitting symbol (pasics) fitting symbol (detail) Vertical pipe Valves, damper symbol
Ste in each scale Fort name Calibri Aspect ratio 500 96 V Bipsis mark (angle Ine) POe. angle duct and flexible duct Rectangle duct	Size -//10 12 1/20 2.1 1/30 1.28mes 1/30 1.28mes 1/100 1.4 1/200 1.1 1/200 1.1 1/300 1.1 1/300 1.1 1/300 1.1 1/300 1.1 0.78mes 0.78mes 1/600 1.1 0.78mes Declose jard desgration with a contribute line Mediad setting Declose is jard desgration with a contribute line 1.1 Declose is paird desgration with a contribute line 1.1	When signs overlap, display compactedly valves symbol. damper symbol. Smallett size 70.79.6 \cordsymbol When signs overlap, display compactedly fitting symbol Magnification of metol Toys Symbol of metol Symbol of metoler Display symbol of farger Display symbol of farger Display symbol of farger Symbol of Hopper Symbol of Hopper \cordsymbol Symbol of Hopper \cordsymbol
Reading, and save of setting OK Cancel Set up single-line symbol X X X X Use mask. Itting symbol dealch. Itting symbol (deal) Vetical pipe Vetical pipe Vetical pipe Vetical pipe X X Use mask. Itting symbol dealch. Itting symbol (deal) Section Section </th <th>○ Drot digaly decation line on all scale (s reflected to general, i ⊥ dranage ⊥, dranage2 ⊥, dranage3 ⊥, dranage3</th> <th>Reading, and save of setting OK Cancel</th>	○ Drot digaly decation line on all scale (s reflected to general, i ⊥ dranage ⊥, dranage2 ⊥, dranage3	Reading, and save of setting OK Cancel

A symbol of uses: Select [Automatic placement distance] or [Automatic placement minimum distance] to show it in the pitch. Select [Pipe] tab- [Edit uses symbol] to add, move, or delete it.



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How to give slopes

Give slopes to a soil water pipe and a waste pipe.

- Left-click a soil water pipe.
 Left-click [Element] panel- [Choose routes systematically].
 →Rebro picks the whole soil water pipe system.
- 3 Left-click [Sloped piping] on the context menu.
- 4 Select "1/100" for the slope value.









- 5 Check the directions of slopes. An icon appears on the route to show the directions of slopes. Left-click the point that has an improper direction, to change.
- Specify a base point, an changeless position in height, for the slope.
 Left-click the handle (orange color) that appears on a base point of the slope to specify it as the base point. Now left-click the center position of a vertical pipe.
- Left-click [Decision] on the context menu to execute the setup.
- 8 Give a slope similarly to a waste pipe.



• Supplementary explanation:

Also, you can give a specified slope collectively for each pipe size.

 Slope value Two points appoint 	1/100 V Reverse	sloped piping 0 mm	1FL	IFL 🔻	Change only part which was chosen
Collective save	Setting	🥝 🗌 Link sle	eve with route		
	Ed	ting method			Movement condition
Г					
4	<u>ک</u>				
	\checkmark				
Collective additi	on of sloped piping $ imes$				
Size	Sloped piping value				
Less than 65	1/50				
Less than 100	1/100				
Less than 125	1/150				
More than it	1/200				
Deletion					
	OK Cancel				

How to detect clashes

Check points where a pipe clashes with other pipes or skeletons.

1 Left-click [Tool] tab- [Clash detection].

 \rightarrow [Clash detection] panel opens.

2 Select [Inspect whole drawing] and left-click [Start] to execute clash detection.

 \rightarrow Clash positions between a pipe and pipes or building skeletons are listed on the clash detection panel. On the drawing, balloons appear with the numbers on the list.







How to draw sleeves

Insert sleeves into the penetrating points through a skeleton. Rebro excludes from the clash detection list the points where sleeves are inserted. Sleeves can be inserted by two ways: automatically or manually. Now insert a beam sleeve manually and a floor sleeve automatically.

Insert beam sleeves

- Left-click [Sleeve or insert] tab-[Sleeve].
- 2 Select the sleeve type.
- 3 Select the way to specify the sleeve size. Now select "Pipe-No thermal insulation(2 size up)" and type "75" into the pipe size.
- Select [Designation of height] [Coordinate] to draw sleeves
 according to the pipe height.

Memo

If you select [Designation of height]-[Coordinate], the sleeve height rounds off figures that are typed into [Height pitch]. If you type "0 mm", the specified coordinates height becomes the sleeve height as it is without correction.

- 5 Select [Setting of the reference floor]-[Acquire from a pipe or duct].
- 6 A guidance message appears saying as follows: "Specify two positions of both ends of sleeve. Specifies first point for starting position of drawing sleeve". Left-click two intersection points between the pipe and skeleton.

Memo

Specify [Point of intersection of pipe] at a snapped point to determine the sleeve height according to the pipe height.







Indication	Sleeve - Outer diamet	ter	
File File	Crcle shape Crcle	Size 80 90 100 125 150 175 200 250 300 Add Edit	Outer diameter 80 90 100 125 150 175 200 250 300 Delete
Beading and save of setting			OK Cancel

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7 Type similarly into the clash points with other beams also.
 →When a sleeve is inserted, the balloon on a clash point disappears.

8 Left-click [Decision] on the context menu to end the command.



Insert floor sleeves

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

- Select [Make whole drawing for target].
- **3** Select [Setting of the reference floor]-[Acquire from a pipe or duct].

Memo

The sleeve height rounds off figures that are typed into [Height pitch]. If you type "0 mm", the route height becomes the sleeve height as it is without correction.

- A guidance message appears saying as follows: "Click [Start] and automatically insert sleeves in whole drawing". Left-click [Start] to execute.
 - \rightarrow A dialog box shows the results.





Setting of the reference floor Acquire from a pipe or duct	Slanted line	\sim
Height pitch 5mm 🗸 📀	Pitch 1 mm	\sim
Insert only the Beam penetration Placeholders on the beam	Thickness 0.01mm	\sim
Drawing method	Hatching	

5 Left-click [OK].

 \rightarrow The sleeves appear on the screen and the balloons on the clash points disappear.

			Men	າວ				
Left-cl	ick [▼]	n	ext to	[S	Start] bu	Jt	ton to	
specify	the sle	ee	ve typ	e.				
Pipe,Duct Electric								۲
	🛃 Pipe		Rectangular duct		Spiral duct		Circular duct	
🕑 Beam	Void	V	(Nothing)	~	Void	V	Void	×
Steel frame beam	Steel frame sleeve	~	(Nothing)	~	Steel frame sleeve	Y	Steel frame sleeve	~
🛃 Wall	Void	~	Boxing	~	Void	V	Void	×
Floor	Void	~	Boxing	~	Void	Y	Void	~
Structural steel	Steel frame sleeve	~	Boxing	~	Steel frame sleeve	Y	Steel frame sleeve	V
Other, (3D figure)	Void	~	Boxing	~	Void	~	Void	~
Include the external	reference file in subject of ex	aminati Size of b	an Sieeve length dm v O Area that in	for grou tensects	ped face) Cargest area in group		Beam type of IFC beam Beam O Steel fram	e beam



• Supplementary explanation:

In the case of [Insert sleeve automatically], the sleeve size of pipe (excluding refrigerant pipes or fireresisting double-layer pipes) from the setting that is assigned to the uses by [Setting]-[General]tab-[Sleeve]-[List of size].

🕸 Setting			×	Setting for use					×	<
General 🗖 Initial value of drawing				Air conditioning - pipe Sanitar	/ - water supply and c	rainage Sanitary-f	ire extinguishing Fa	cilities - sanitary - gas		
Indication Print Figure Figure Chose elements Group elements Figure Pre, duct, and electricovire cc Figure Seave Chose elements Group e	Steeve - List of size Ppe Refrigerant Prevesidant Classification No thermal insul Comment 2 size up Norminal diameter size 15 20 25 32 40 50 30 Add Delete Add Delete Allocation of list of size for up	two wall pipe A rectangular duct, circular duct ation V Add Sleeve size 80 80 80 80 80 80 80 100		Use Cod and warm water (supply) Cod water (supply) Cold water (supply) Cod water (supply) Warm water (supply) Warm water (supply) Cooling water (supply) Cooling water (suppl) Drain (air conditioning) Ar verblation Expansion pipe (air conditio Steam Condensation water High warm water Of	Beam Cool and warm w Cool and warm w No thermal insula No thermal insula	Steel frame beam Cool and warm w Cool and warm w No thermal insula No thermal insula	Wall Cool and warm w Cool and warm w No themal insula No themal insula	Floor Cool and warm w Cool and warm w No thermal insula General pipingth No thermal insula General pipingth No thermal insula No thermal insula	Other, GD faure. Cool and warm w. Cool and warm w. No thermal insula. General pipingth. No thermal insula. General pipingth. No thermal insula.	
Reading, and save of setting		ОК	Cancel					ОК	Cancel	

You can set up a drawing layer for sleeves in [View] tab- [Layer initial]. Checkmark "Divide layers by automatic sleeve use segment." to add after the layer name a use category for the route penetrating the sleeve.

Category	Command	Type	Layer
Sleeve insert	Insert		Insert
Sleeve insert	Sleeve	Wall	Sleeve (wall)
Sleeve insert	Sleeve	Beam	Sleeve (beam)
Sleeve insert	Sleeve	Floor	Sleeve (floor)
Sleeve insert	Automatic sleeve	Sleeve, Wall	Sleeve (wall)
Sleeve insert	Automatic sleeve	Sleeve (comer), Wall	Sleeve (wall)
Sleeve insert	Automatic sleeve	Sleeve, Beam	Sleeve (beam)
Sleeve insert	Automatic sleeve	Sleeve (comer), Beam	Sleeve (beam)
Sleeve insert	Automatic sleeve	Sleeve, Floor	Sleeve (floor)
Sleeve insert	Automatic sleeve	Sleeve (comer), Floor	Sleeve (floor)
Sleeve insert	Beam penetration section plan		Beam penetration section
Architecture &	Grid line		Grid line
Architecture &	Beam	Beam	Beam
Architecture &	Beam	Steel frame beam	Steel frame beam
Architecture &	Column	Column	Column

5. Finish drawings

How to create a layout for printing

Resize a view

- 1 Left-click the view name.
- 2 A guidance message appears saying as follows: "Select multiple views by [Select additional view] / [deselect views]. Drag the left button of the mouse or click the handle or press the edit button". Left-click the handle for resizing (white) that appears on the view frame.
- 3 A guidance message appears saying as follows: "Please specify change position". Left-click the position to change.



- 4 Left-click [Decision] on the context menu to end the command.
- 5 Drag a scroll wheel while pressing Ctrl to adjust in fine increments the display position in the view.



Create views for cross sections

- Left-click [View] tab- [Create a view].
- 2 Select "Scale"-"1/20", "Direction"-"Front section".
- 3 A guidance message appears saying as follows: "Specify area making view". Left-click two points on the opposite corners on the screen.
- Open similarly a view at "Direction"-"Right section" and "Right front secion" at "Scale"-"1/20".
- **5** Left-click [Decision] on the context menu to end the command.
- 6 Left-click [Fitting] in [▼] next to the view name of the front view and the right side view.

→Rebro adjusts the scale and display position to show all elements in the view.



Open up new view	Name	Front section(1)	Azimuth angle	0 *	~ 🕜			
Open a copied view of the previous one Specify the area	Scale	1/20 2	Elevation angle	90 °	~			
Previous views Ground plan - Ground plan -	Direction	Front section	Rotation angle	0 *	\sim			
Setting								







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Set up clips

Specify the display area for elements to show only the necessary elements as a cross section from all elements shown in a view.



2 Select [Add].

Select "Height"-"0" and "Reference floor"-"1FL".

Memo

If you select the same height, Rebro does not set up a clip for Zaxis direction.

If you select different heights,

Rebro can create a floor plan that picks out the specified area for zaxis direction.

- A guidance message appears saying as follows: "Please specify clip area".
 In the plane view, left-click two points on the opposite corners of the display area in the front view.
- A guidance message appears saying as follows: "Choose view to clip".
 Left-click inside a frame of the front view.

 \rightarrow The front view shows only the elements in the specified area.

5 Set up similarly a clip in the right side view.



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Set up scales

- 1 Left-click [Change scale]-[1/20] in Change scale ⊁ 1/20 1 [▼] next to the view name of the Fitting 1/30 **C**3 Scroll front view or the right side view. ۲ 1/50 Margin ۲ 1/100 \rightarrow Rebro changes the view scale. Orbit 1/200 Adjust plane angle 2 Specify with the numerical value 3 Align a view with another view Area specification Memo If you want to change a scale into 4 the one that is not on the list, leftclick [Change scale] to select Ð [Change scale of the view] dialog Rest room(2) FL ±0 (7# 2400 box-"Scale" or type a denominator value into the blank. Ŧ Change scale of the view \times **P** ₿ Scale 1/40 \sim Change the size of the view according to the scale в ОК Cancel
- Supplementary explanation:

Select [View] tab- [Create cross-section] to create a cross section view on which a clip and a scale is set up.

🥙 Home	Figure	Pipe	Duct	Electric	Equipment	Sleeve or	r insert	Building	Tool	Proc	essing	View	Ado	d-ins			
Iist of layers	🕹 Layer 🥃 Layeri s	change initial	Drawi	ing sion Lin	e type list	List of layout	Create View cl Hide ch	a view lip hosen elemen	• •	🗲 Creat	te floor pla ireate cro	an ss-section	6	Automatic hide	len 🚽	Process hidd manual	en-line 🚽
	Layer		Expres	sion L	ine type			Vi	ew					ŀ	lidden l	ine process	
						•	\bigcirc	•									
🖭 Home	Figure Pipe	Duct	Electric	Equipment	Sleeve or inser	t Building	Tool	Processing	/iew	Add-ins	📙 Crea	ite cross-sect	ion		1		
Division 💌	General-purpose		~	Name Sec	tion plan A-A'		O Direct	ction Rear of	ction		Fit the	angle of the	view to	the direction	Height	0 mm	1FL 💌
Layer	්සි 🔳 Figure	,		Scale 1/2	0	~	OL	eft section	Rigl	ht section					~	0 mm	1FL 💌
	0.20mm	Solid	🛃	🔽 Making d	f section plan mark	Details 🔻		O Front s	ection								
	Layer							Setting								Height	

Align the display positions of views

 Left-click [Align a view with another view] in [▼] next to the view name of the front view.

2 A guidance message appears saying "Choose other views to align position". Left-click inside a frame in a plane view.

> \rightarrow The positions of the plane view and the front view are arranged in order.

Adjust the position for z-axis direction to show all pipes in the view. Left-click [Scroll]-[Scroll in a view(By specifying two points)] in [▼] next to the view name of the front view.



A guidance message appears saying as follows: "Specify two points to scroll". Inside a frame of the front view, left-click two points so that the line becomes vertical.
 →The display position of the view

 \rightarrow The display position of the view changes.



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The first point of the corners

5 Drag a scroll wheel while pressing Ctrl to adjust the display position in the right side view.



Set up a layer display

Now hide a skeleton layer in a right front view.

- 1 Left-click "Layer" panel.
- 2 Set [Current view] as a target for layer control.
- 3 Select [Category]-[Architecture & Structure].
- Change the right front view to a current view and left-click [Indicate] icon.

 \rightarrow 3D building data in a right front view will be hidden.

5 Left-click [Fitting] in [▼] next to the view name of the right front view to show the whole pipe in the view.





Leave a margin in a view

Leave a margin in a view so that you can draw grid lines or dimension lines that are led outside the drawing.

- 1 Left-click [Margin] in [▼] next to the view name in a plane view.
- 2 A guidance message appears saying as follows: "Please click handle in side to change blank". Left-click the handle for changing position (white) for the blank that appears on the view frame.
- 3 A guidance message appears saying as follows: "Please specify to change position of blank". Left-click the position to move the blank.
- ✓ Left-click [Decision] on the context menu to end the command.
 →3D elements are hidden in the margins around a plane-view.





How to draw dimension lines

- 1 Left-click [Figure] tab- [Dimension line].
- 2 Select the size of dimension value.
- 3 Select the shape for an end portion of the dimension line.
- A guidance message appears saying as follows: "Specify drawout position more than two points, and choose "decision (Enter)" of clicking right button." Left-click the position to lead out a dimension line.
 (In this case, the center position between the grid line and the vertical pipe)
- 5 Left-click [Decision] on the context menu.
- 6 A guidance message appears saying as follows: "Specify position of dimension or choose "decision(Enter)" of clicking right button".

In the margin area, left-click the position to draw a dimension line.

Left-click [Decision] on the context menu to end the command.

Memo Checkmark "Height" on the ribbon to draw by specifying the height. Uncheck "Height" to draw at the specified coordinate height.







How to annotate the drawing with sizes

Annotate pipe sizes or height.

- 1 Left-click [Pipe] tab- [Size annotation].
- Select the descriptions that you want to annotate.
- **3** Select the way to draw.
- 4 Select the character size and so on.
- 5 A guidance message appears saying "Choose Pipe, Valves, Fitting you want to annotate with Text such as size". Left-click the pipe to annotate with the size.
- 6 In the case of [Text with leader line (Specify angle)], [On a line], and [Any position], left-click the position where you place the size annotation text.

%[Center] places the text in the middle of the pipe that you leftclicked.

In the case of [Text with leader line], left-click the position of the leader line and the position where you place the size annotation text.

Left-click [Decision] on the context menu to end the command.



How to draw vertical pipe symbols

- 1 left-click [Pipe] tab- [Draw riser symbol].
- Specify the way to draw riser symbols. Checkmark "Distinguish top and bottom of the selective choice construct automatically" and select "Only as for the numerical value".
- 3 Select the sequence how to place riser symbols. Select "Upper left".
- Left-click [Arrow] to checkmark "Fit the color of vertical pipe mark (spear) to the route".
- 5 A guidance message appears saying as follows: "Choose vertical pipe, vertical duct". Choose the vertical pipe in a pipe shaft.
- 6 Left-click [Decision] on the context menu.
- A guidance message appears saying as follows: "Specify vertex of a leader line and select "Decision (Enter)" with right click." Left-click the vertex of the leader line.
- 8 Left-click [Decision] on the context menu to end the command.







How to adjust the position of a grid line



How to draw a floor line

- Select [Building] tab- [Setting of floor].
- 2 Left-click [Drawing of floor line].



_	-		
Floor name	Floor height	Z-coordinate value	T
2FL		4100	
1FL	4100	0	
Insertion Del	etion		
Insertion Del	ation s by changing floor height		
Insertion Dela Move elements Base of height	etion s by changing floor height 1FL	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	·
Insertion Del Move elements Base of height	etion s by changing floor height 1FL <u>Specifi</u> ed floor height be	comes Z=0	•

3 A guidance message appears saying as follows: "Specify area making floor line". Left-click two points on the opposite corners so that the specified area overlaps with the floor line.

→Rebro draws a floor line for printing on the position where the

specified area overlaps the floor line.

How to process a hidden line

If you turn on [View] tab- [Automatic hidden line], Rebro processes a hidden line when you draw. If you turn on [View] tab- [Automatic hidden line] after drawing, Rebro processes a hidden line at that moment. If you turn off [View] tab- [Automatic hidden line], hidden line process is reset.

🖭 Home Figure Pipe	Duct Electric Equipme	ent Sleeve or insert Building Tool Processing View Ad	ld-ins
 Layer change Layer initial List of layers 	Drawing expression	Image: Create a view ✓ ✓ Create floor plan List of layout Image: Wew clip ✓ ✓ Create cross-section	Automatic hidden v line Process hidden-line v manually
Layer	Expression Line type	View	Hidden line process

[Setting of automatic hidden line] can complete settings for the target elements of a hidden line process or line types of a hidden line part.

🕐 Home Rigure Pipe Duct Brechic Equipment Sleeve or insert Building Tool Processing View Addres	Setting of automatic hidden line X
Image: Charge Create a view Image: Create view	Object of processing A pipe Duct Electric Equipment Architecture Structural steel 2D figure 3D figure
Not execute automatic hidden line in all views	For building, process hidden-line separately Object of processing Structural steel 2D figure 3D figure
	 Include external reference file Include cable conductors of the route
	How to represent hidden-line Line type of hidden-line Use another line class if hidden by specified target. Target Dashed line(19mm)
	Show intersecting lines
	Single line 1 mm A double line 1 mm Widen the gap between double-lines
	Preferred method Prioritize height
	Prioritize uses Process hidden-lines according to the priority of uses Process hidden-lines according to the route direction
	 Prioritize the vertical direction Prioritize the horizontal direction
	If both check are on, the direction is judged for the route with the same priority of use.
	Reflect in all views OK Cancel

