SmartPacker V3.2.9 | 2024-05-09

0 Overview

SmartPacker is a Windows desktop software tool for assisting shippers plan cargo loading in containers, to increase space utilization and save calculation time.

Zhihuo the software development company mostly serves enterprise clients with customization on their specific loading and scheduling rules. This standard edition removed the customized features to provide a simplified interface with the essential function: answer the question that for a given container space, what and how a cargo-quantity combination can be loaded.

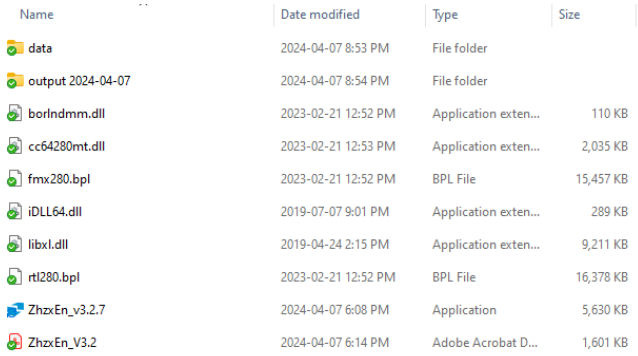
This question may raise when a buyer adjust an order to fit the cargo into a Full Container Load (FCL), or a logistics contractor find how many containers are needed in making a quote, or a manufacturing company plan shipment to fulfill orders.

The software requires Windows 64bit.
The default size of the software interface is 1366x768 to fit in small laptop screen but you can enlarge it.
The software does not require internet access.
It did not check update automatically either, you may visit www.zhihuo.net/v3 to check update.
This download version is for 180-day trial on a Windows PC.

The software is provided by Zhihuo, a software company has offices in Beijing and Winnipeg.
For any questions and comments, please email: zhzx@zhihuo.com

1 The software package

The downloaded package is in zip format, after unzipped, you see the following files in the folder:



Name	Date modified	Type	Size
data	2024-04-07 8:53 PM	File folder	
output 2024-04-07	2024-04-07 8:54 PM	File folder	
borlndmm.dll	2023-02-21 12:52 PM	Application exten...	110 KB
cc64280mt.dll	2023-02-21 12:53 PM	Application exten...	2,035 KB
fmx280.bpl	2023-02-21 12:52 PM	BPL File	15,457 KB
iDLL64.dll	2019-07-07 9:01 PM	Application exten...	289 KB
libxl.dll	2019-04-24 2:15 PM	Application exten...	9,211 KB
rtl280.bpl	2023-02-21 12:52 PM	BPL File	16,378 KB
ZhzxEn_v3.2.7	2024-04-07 6:08 PM	Application	5,630 KB
ZhzxEn_V3.2	2024-04-07 6:14 PM	Adobe Acrobat D...	1,601 KB

- The file with the blue logo is the executable, double click it to run the software (no installation needed).
- The .dll, bpl files are supporting libraries for the software to run.
- In the data subfolder has an excel file for example data of container and cargo dimensions.
- When you no longer want it, just delete the folder, no un-installation needed.

Open the data.xlsx file,

- The "Cargo" sheet is for cargo, you would want to change the dimensions to that of your cargo. After you made change and save. Restart the software, which may take one or two minutes to process the change then ready to compute.

	A	B	C	D	E
1	Cargo Name	Length/mm	Width/mm	Height/mm	Upright
2	A	520	439	403	NO
3	B	785	698	554	NO
4	C	1253	1032	779	YES
5	D	674	542	336	YES
6	E	522	455	422	YES
7	F	875	755	366	YES
8	G	1023	895	275	YES
9	H	807	738	450	NO
10	I	623	534	322	NO
11	J	1233	1023	799	YES
12	K	2054	702	697	YES

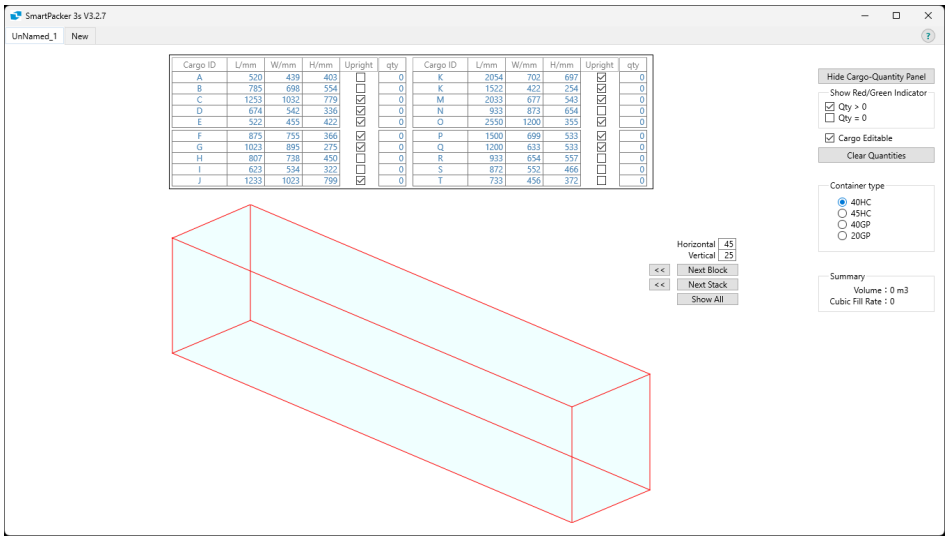
- The "Container" sheet is for the internal loading space of container, nevertheless, you can also use it to compute a loading space of truck with length, width and height limit, or a carton space.

	A	B	C	D
1	ID	Internal Length/mm	Internal Width/mm	Internal Height/mm
2	40HC	11850	2320	2670
3	45HC	13350	2320	2670
4	40GP	11850	2320	2320
5	20GP	5660	2320	2320

The app will import these data sheet when start, and will save changes you made in the user interface.

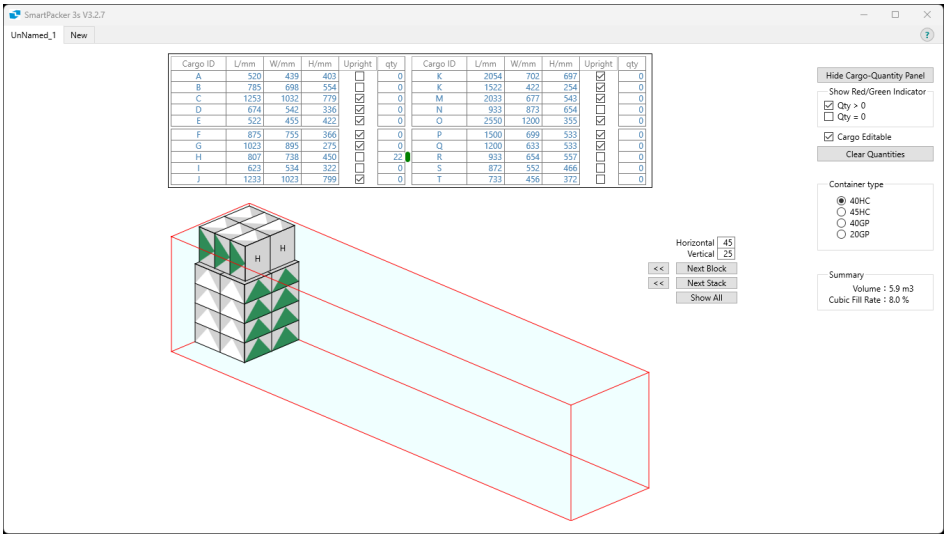
2 Explore what cargo-quantity combination to load

You see the following user interface when the app starts



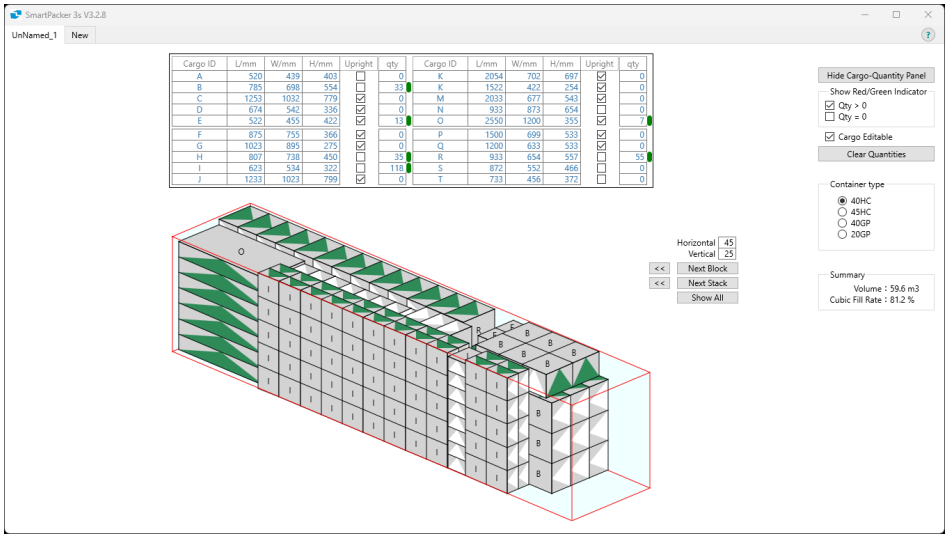
- A panel to input cargo dimensions and quantity, let us call it the cargo-quantity panel
- An illustration of the container space and the cargo loading
- A few buttons and checkboxes in the right side

To start, move the mouse cursor on a number box for a quantity of a cargo, roll the wheel the mouse to increase or decrease the number, and see a loading plan computed accordingly. Below I am changing the quantity of cargo H to 22.



You can move cursor and roll up the quantity of other cargo, and see the cargo loading plan evolve. Nevertheless, as more cargo added, you notice the app will react slower.

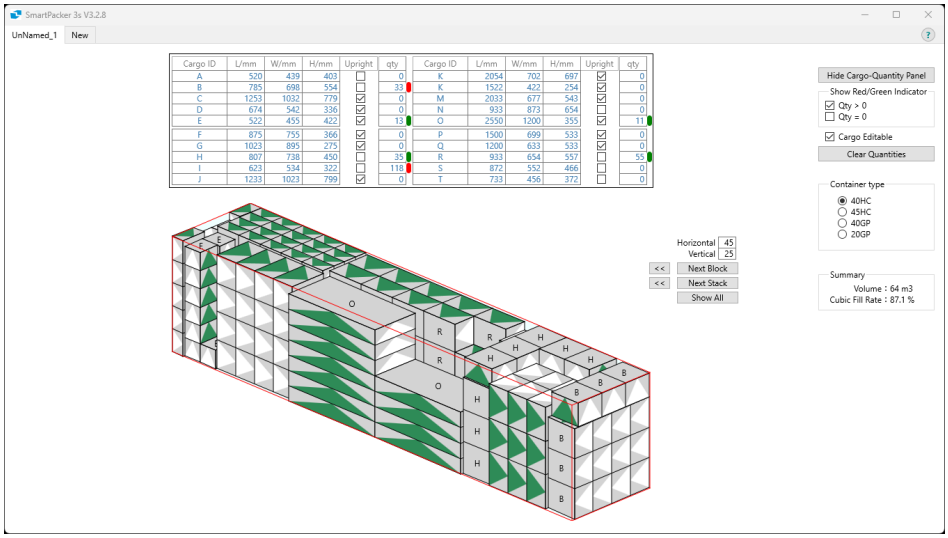
In that case, you can select a number box and type the quantity, e.g. 55, directly then type “return”, so the app won’t have to compute the loading plans for quantities from 1 to 54, but compute and show you with a plan for 55 directly.



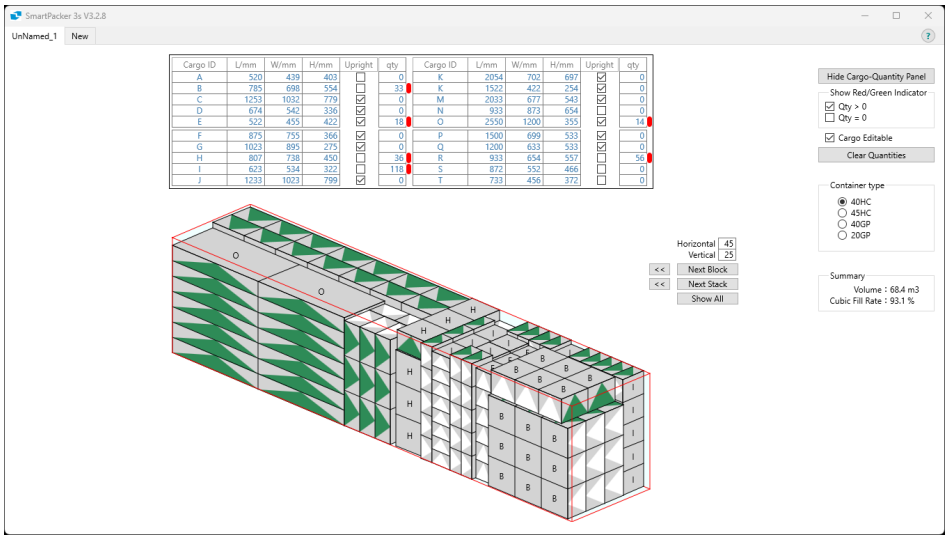
For the 6 number boxes with a no-zero quantity, you see a green light indicator besides, which is to tell you that quantity can still be increased.

Then as you continue to grow the quantities, some of them will turn red.

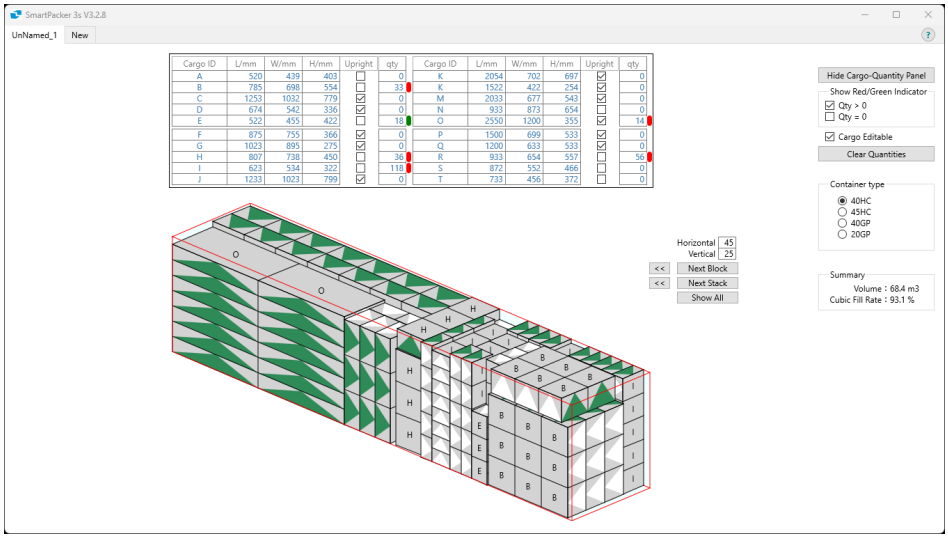
The current version only supports stacking by same cargo, so the app will not place cargo B, which has turned red, on top of the cargo O, which is still green. (We know you’d want that and we are working on it.)



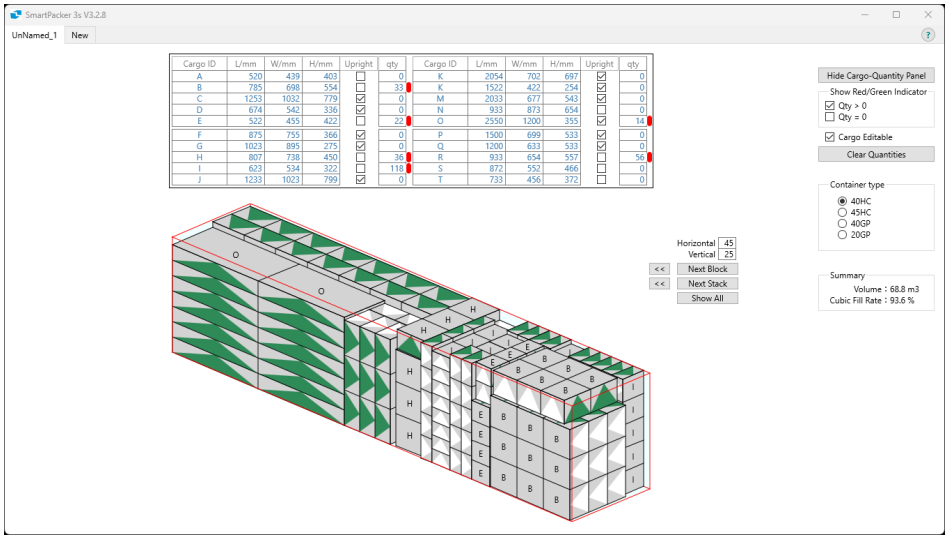
Then you can follow the green light to increase quantities till all red.
Now you see the cubic fill rate made 93.1% in the right panel.



At this point, image you are desperate to add a few more cargo E, which currently requires placed upright. But you guess the box will be ok to stands on its side, so you click the checkbox to remove that constraint, and are delighted to see its indicator turns green.

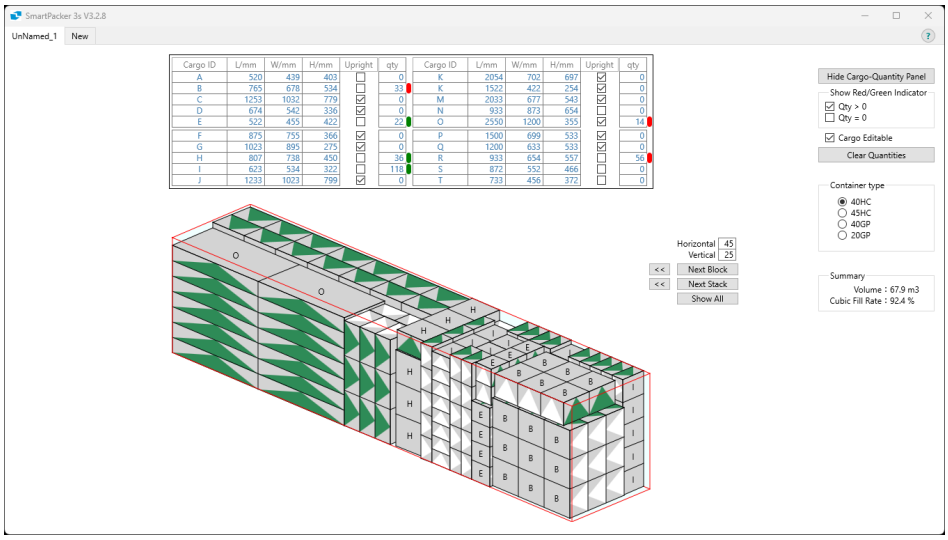


And you got the quantity of cargo E increased by 4.



You may have another “What if” question: the cargo B is sth wrapped with soft materials, and your boss believes it should be ok to press some air out. You can explore this option by tunning down its dimensions, say decrease 20 mm in it length, width and height.

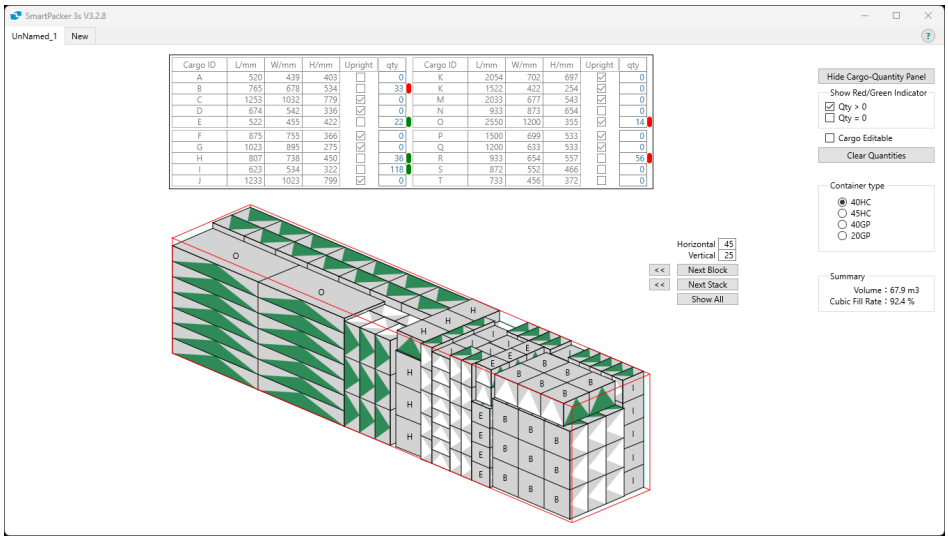
You go ahead and changed its dimensions, it turns out, cargo B is rather altruistic, that it still shows red, about allowed E, H, and I to turned green to add more.



The changes you made on cargo dimensions will be automatically saved into the data.xlsx, then next time you open the app you still have the changes. Nevertheless, you may want to save a backup copy of the data.xlsx so you can restore the original when needed.

The convenience of moving cursor and rolling mouse wheel to change the cargo, brings a risk that you, or your cat, may make changes unintentionally.

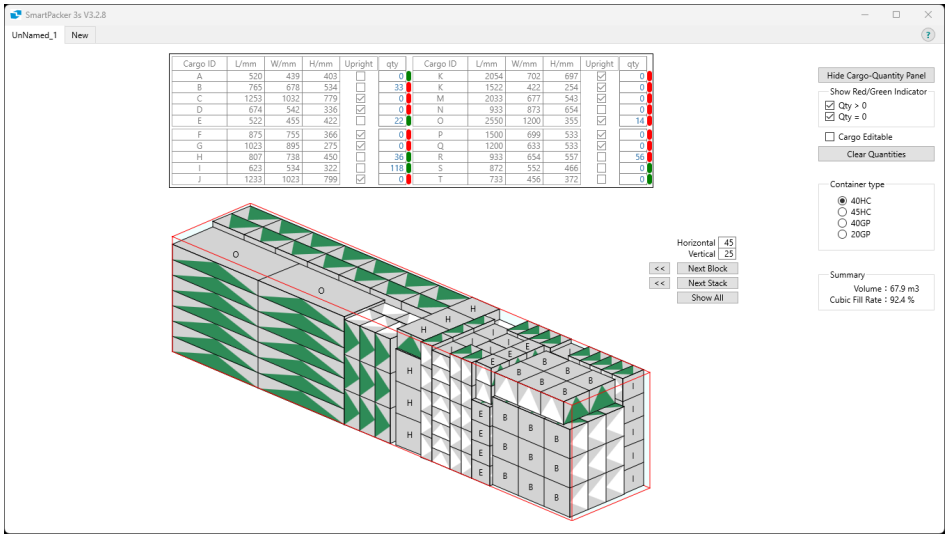
To avoid that, uncheck the “Cargo Editable” checkbox in the right panel, then the cargo specifications will turn into gray color, indicating they are not editable.



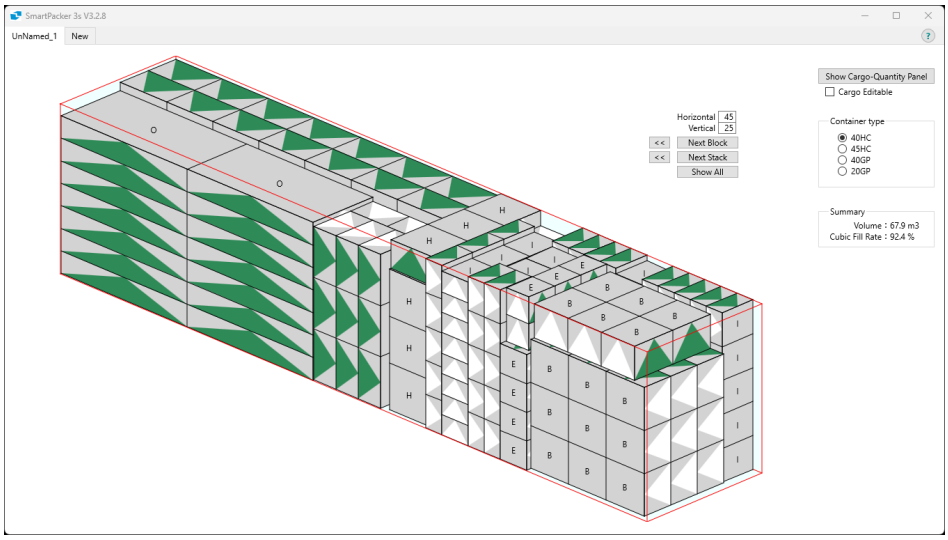
While you see 3 red and 3 green lights in the screenshot above, you may wonder how about the other cargo? can some of them be able to add as well?

To check that, you click and check the “Qty = 0” checkbox in the right panel, and see other 3 cargo A, S, T can be added.

It takes time for the app to compute whether a cargo can be added or not, so when you feel the app getting slow, you can uncheck “Qty=0” and even “Qty>0” to see get it faster.



The “Hide Cargo-Quantity Panel” button will hide the upper panel to make room for larger illustration, which can be useful when you checking the loading plan on a laptop screen in the loading dock.



The “Horizontal” and “Vertical” number box enable you to adjust viewing angle of the container loading plan, and the “Next Block” and “Next Stack” button help you see the loading plan by steps, which is instrumental to reveal the hidden sections.