

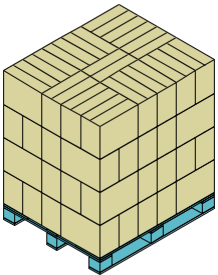
# QUICK PALLET MAKER LOAD OPTIMIZATION

Quick Pallet Maker is an application that was designed to help the package designer create optimal box and pallet arrangements to fit more products into a pallet or container load, thus minimizing shipping costs. All of this while adhering to plant guidelines such as practical box proportions, maximum box weight, etc.

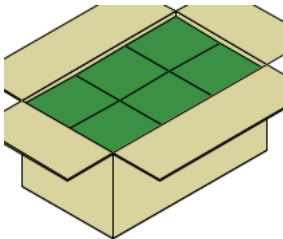
Quick Pallet Maker can use either standard box sizes and add slack accordingly or create new box dimensions as a function of the primary package dimensions. For users that already know their box dimensions, QPM offers an input window where the user enters box dimensions, making it even faster to obtain a result. Resulting pallets can be modified to accommodate more boxes within a layer or to shift layers to obtain greater stability. Other functions include box compression calculations and inserting internal box dividers.

What does Quick Pallet Maker do?

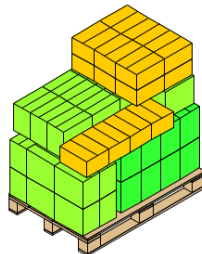
Quick Pallet Maker provides rules to a user that wishes to pack a product into boxes and then into a standard load size, be it a pallet or a container as the final package. Results provided by QPM reduce costs as much as possible while adhering to packaging specifications for



**CALCULATE PALLET LOADS**  
Quick Pallet Maker calculates optimal pallet loads from external carton dimensions, independently of the box's contents. Pallet arrangements can be regular, optimized, display and custom. The Aussie Pack & Ship line extension includes special Australian pallet arrangements.



**DESIGN BOX SIZES**  
If only the dimensions and case count of the primary package are known, Quick Pallet Maker can be used for calculating the dimensions of new boxes. Case ratio and dimension constraints limit the resulting boxes to those that can be managed efficiently within a warehouse.



**FILL MULTI-PRODUCT PALLET**  
Using a list of multiple boxes and their amounts, Quick Pallet Maker can calculate the number of pallets that are needed to complete a shipment of boxes. These pallets can then be grouped and loaded into containers. The data can be entered manually or imported from a previously configured spreadsheet.

## QUICK PALLET MAKER - FEATURES

**Start from Primary Package:** The Quick Pallet Maker user can choose to start to create an optimal pallet load by entering the primary package dimensions, the box construction type and constraints, the dimensions of the physical shipping pallet and the pallet load constraints.

**Start from Box Dimensions:** Optimal pallet arrangements can be calculated with Quick Pallet Maker by introducing the case sizes, the pallet dimensions and the pallet load constraints.

**Standard Cases and Pallets:** Quick Pallet Maker contains a list of cases and pallets that can be reused in different problem types. The standard cases can be used to accommodate a fixed number of primary packages or to fit as many primary packages as possible into the cases with those dimensions

**Design boxes from PP dimensions:** The default calculation mode will produce boxes that are big enough to fit a predetermined amount of primary packages within it. The internal box dimensions are then equal to the external dimensions of the regular group of primary packages.

**Fit into standard case dimensions:** As explained before, the user can add standard case dimensions (off-the-shelf boxes) to be reused in different packaging situations. The most common use for this range of boxes is to enter a fixed case count and then check which one of the standard cases is close enough to the calculated dimensions to be used as the packaging box.

**Fill standard cases:** This calculating mode will start from the dimensions of the standard cases and then add primary packages in different orientations in order to fit as many as possible within the box. All of this is done while taking care of not exceeding the maximum slack allowed.

**Use standard pallet dimensions:** Commonly-used pallet dimensions can be stored within the standard cases and pallets window in order to be selected when necessary.

**Regular pallets:** The default pallet calculation will arrange the boxes by layers within the restricted area of the pallet. In these basic arrangements, the boxes are completely aligned, either lengthwise or transversal to the pallet length.

**Optimized pallets:** Optimization algorithms built into Quick Pallet Maker will rearrange the boxes in the pallets in order to fit as many as possible into a pallet layer, even if the outcome is not a regular arrangement.

**Pinwheel (display) patterns:** Quick Pallet Maker can produce pallet arrangements that are specially made for displaying box sides and/or box lengths to customers. This is done automatically from one of the pallet commands.

**Alternate and Mix Layers:** In some cases, it is more important to maintain the stability of the pallet load than to optimize the strength that must be supported by each one of the boxes in the pallet. In this case, Quick Pallet Maker provides a method to automatically alternate the pallet layers. In other cases, a new pallet can be formed using arrangements from different pallets.

**Layer Editor:** In some cases, the desired pallet arrangement does not match any of the available optimizations in Quick Pallet Maker. For these cases, we have added the Layer Editor, which allows the user to rotate and move the boxes one by one.

**Single-Sized Objects:** Use the Quick Pallet Maker container fill window for calculating how many packs (pallets, boxes or cylinders) can be fit into a container.

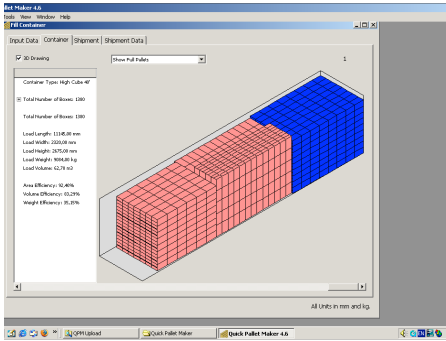
**Multiple-Sized Objects:** Create a shipment of certain amounts of pallets, boxes and drums for delivery within a container. Quick Pallet Maker optimizes the arrangement of these objects to reduce costs as much as possible.

**Detailed Report:** The default output option for pallets created with Quick Pallet Maker is to present the pallet, box and primary package (if applicable) drawings, along with information of the dimensions of each one of these packaging components.

**Report Text:** The text from the detailed report can be exported independently of the graphics in order for it to be opened with a spreadsheet program or text editor.

**Palletization Movie:** Quick Pallet Maker includes a feature that creates an animation of the pallet under construction. This animation (in QuickTime format) can be shared with co-workers that have installed the free QuickTime viewer in their PCs.

**Output File Formats:** XML, CSV (for box coordinates), SVG, MS Excel (pallet report), JPEG, BMP, PICT and other QuickTime-supported formats (for report graphics), QuickTime Movie (.mov) for pallet and container fill animations



## CONTAINER LOADING

Quick Pallet Maker provides the means for calculating container fill with pallets, boxes or drums, either by using a finite number of elements or by calculating which is the maximum number of one type that can be introduced into a container of a specific size. The former method involves entering an amount per pallet, box or drum and allowing the software to calculate the optimal mix for

the given elements. The container load window can be reached either from the Results Window by selecting the Fill Container option from the Tools menu or through the File menu. It allows the user to calculate container fill with one element type (pallet, box or drum), fill as many containers as needed depending on a given order or shipment and view the list of containers, pallets and boxes in a given shipment.

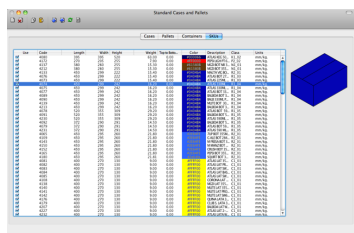
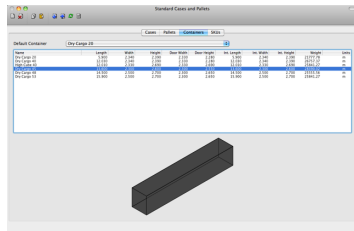
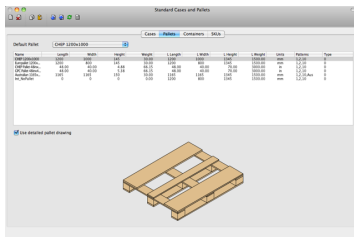
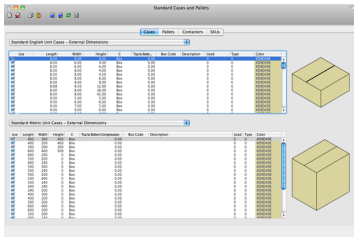
## QUICK PALLET MAKER CLIENT-SERVER SOFTWARE & API

Quick Pallet Maker is also available as an API (Application Programming Interface) so you can connect your current internet-enabled software to many of the functions that are available in the QPM standalone application, such as calculating pallets.

The QPM server uses JSON input and works with the SOAP protocol. It is currently offered as a service. Contact us for more information.

You can find an example of how it works by running a free web app at the following address:

<http://www.koona.com/qpm/calc/singleboxcalc.html>



The Quick Pallet Maker standalone software is available through the Koona website.

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