

A Series

A Series Robotic Palletizers



Columbia
okura LLC
Robotic Palletizing Experts

A Services

Columbia/Okura robotic palletizers are compact and cost effective. A choice of several different end effectors provides versatility for handling a broad range of products, pallets and slip/tie sheets without tool changes. Up to four production lines can be stacked simultaneously while using minimal floor space. Designed with flexibility in mind, you can easily automate product loading and unloading to meet your specific material handling requirements.

PAIL STYLE

Pails



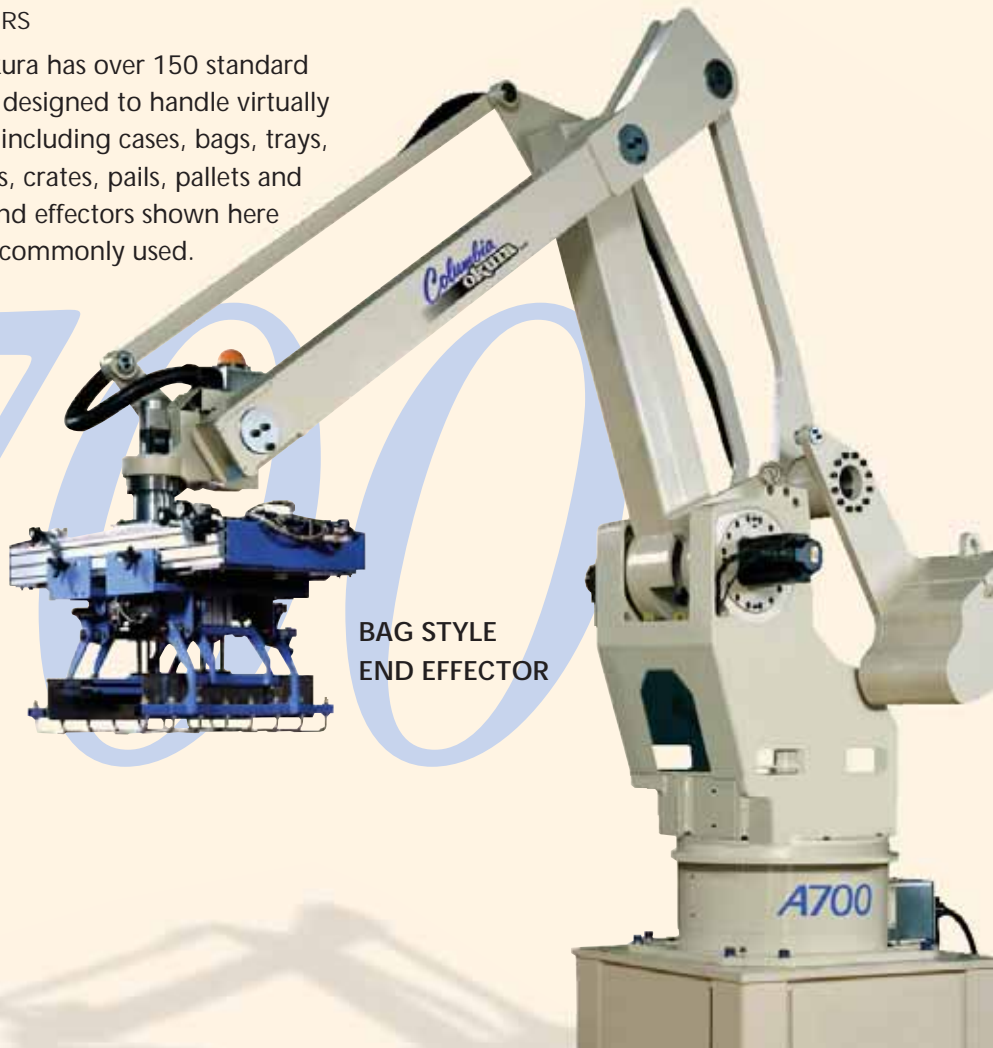
CLAMP STYLE

Cases, trays, bundles, etc.



END EFFECTORS

Columbia/Okura has over 150 standard end effectors designed to handle virtually any product, including cases, bags, trays, totes, bundles, crates, pails, pallets and sheets. The end effectors shown here are the most commonly used.

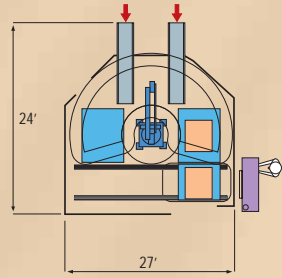


BAG STYLE
END EFFECTOR

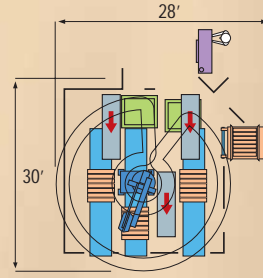
MODEL A700

UL1740 APPROVED

Double Pallet Conveyor Layout

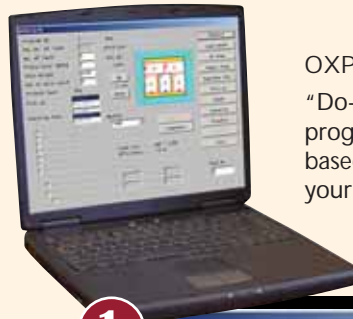


Multiple Pallet Conveyor Layout



CONTROLS SOFTWARE AND PROGRAMMING

The robot control panel contains highly advanced software to provide precise control of all robot movements. The operating screen, complete with detailed graphics and easy navigation tools, provides quick access to the 50 standard product patterns already built into the program. OXPA-DIY "Do-it-Yourself" software is designed to make adding patterns to your robot a simple process. Patterns are created off-line on your personal computer or laptop, then downloaded to the robot controller. Patterns can also be added at the control panel using the operator interface. No need to interrupt your production schedule; custom patterns can even be added while the robot is on or operating.



OXPA-DIY
"Do-it-Yourself"
programming is Windows based and can be run from your laptop computer.

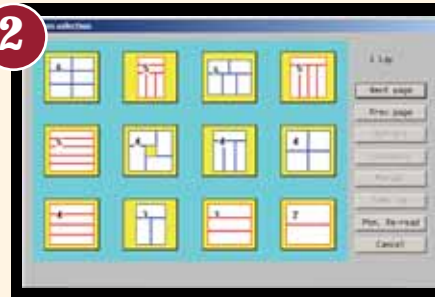
1



HERE'S HOW IT WORKS

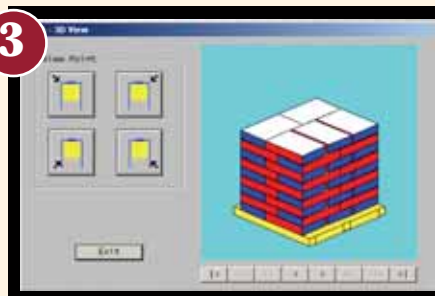
Launch DIY from your personal computer and enter the product weight, dimensions and the desired number of layers.

2



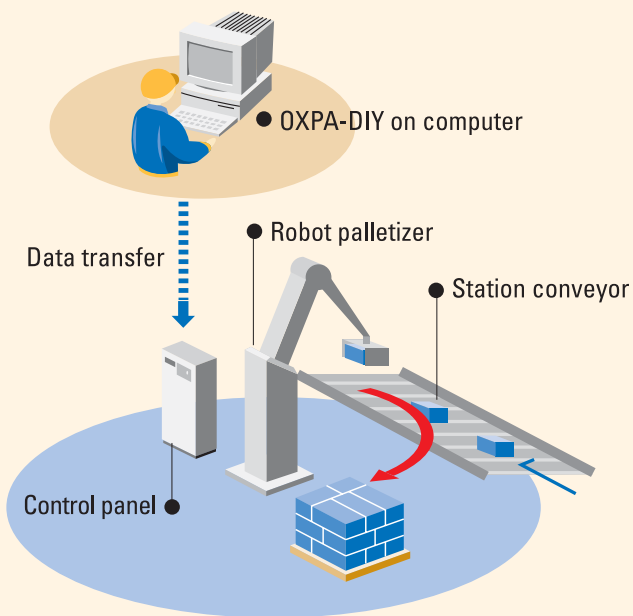
DIY displays possible stacking configurations based on your input. Just click on the one you want and the software automatically calculates the stacking coordinates for you.

3



Use the 3-D image of the pattern you have created to evaluate the complete pallet load from four different viewpoints.

Then download the pattern to the control panel and you're ready to palletize your product.



**INSIST ON
PALLETIZERS THAT FIT**

Whether you're buying your 1st or your 51st palletizer, don't waste your time on inflexible equipment. Insist on a

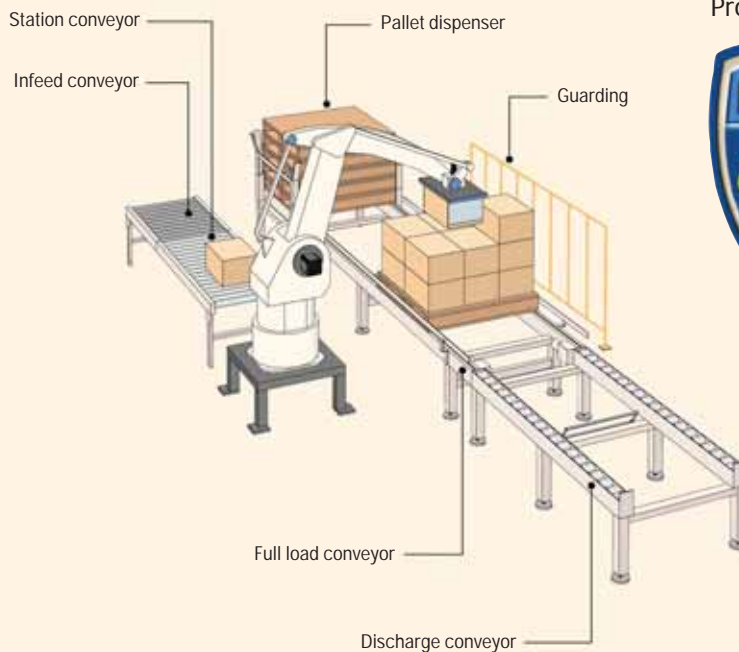
palletizer that fits into your floor layout, your work flow, your products and your future production plans.

EXPERIENCE YOU CAN COUNT ON

Columbia/Okura is a manufacturer and technical integrator of robotic palletizing systems to handle cases, bags, pails, bundles, trays, pallets and sheets, reducing overall labor costs and increasing profitability to manufacturers throughout the world. Columbia/Okura is jointly owned by Columbia Machine, an industry leader in conventional palletizing and Okura Yusoki, Japan's leading supplier of robotic palletizing systems. We put over 100 years of combined material handling experience and over 20 years of robotic palletizing expertise into every machine produced.



Columbia/Okura, LLC headquarters, Vancouver, WA USA



**ROBOSHIELD
Protection Feature**



700 1600

A700

A1600

OPERATIONAL SPECIFICATIONS

Motion – Multi-articulated, polar coordinate system
Load Capacity – 310 lbs./140 kg. (including end effector)
 – 440 lbs./200 kg. (optional)
Degree of Freedom – 4 axis
Operating Range –
 R axis (rotation)
 D axis (up/down)
 O axis (forward/back)
 T axis (wrist)
Maximum Speed/Minute – for a 'single pick'
 Note: 'Multi-picking' product will increase palletizing rates
Accuracy – Repeated stop position accuracy ± 1 mm

X	X
X	X
X	X
360°	360°
91"/2300 mm	91"/2300 mm
69"/1750 mm	60"/1518 mm
440°	440°
9 cases/11 bags	18 cases/24 bags
X	X

ROBOTIC ARM MECHANICAL & ELECTRICAL SPECIFICATIONS

Electrical –
 200/220V $\pm 10\%$, 60Hz, 3Ph, 7 Amps
 200/220V $\pm 10\%$, 60Hz, 3Ph, 19 Amps
 460V $\pm 10\%$, 60Hz, 3Ph, 3.5 Amps (optional)
 460V $\pm 10\%$, 60Hz, 3Ph, 9 Amps (optional)
 Note: Peripheral system components will require additional power consumption
Pneumatic Consumption –
 6.36 SCFM/180 l/min.(ANR)
Robot Weight – Without end effector & control panel

X	X
X	X
X	X
X	X
2756 lbs./1250 kg.	2560 lbs./1160 kg.

UL 1740/UL508 APPROVED

UL 1740: UL File #E242190 (U.S. – TETZ.E242190, Canada – TETZ7.E242190)

Standard for Safety for Robots and Robotic Equipment

UL 1740 encompasses applicable requirements of the following standards:

ANSI RIA 15.06 – 1999 Industrial Robots and Robot Systems – Safety Requirements
CSA Z434-03 Industrial Robots and Robot Systems – General Safety Requirements
NFPA 79 2002 National Fire Protection Association Electrical Standard for Industrial Machinery
NEC 2002 (NFPA 70) National Electrical Code
UL508A Standard for Safety for Industrial Control Panels

In addition, Columbia Okura is a UL508A panel shop

UL508A: UL File #E216389 (U.S. – NITW.E216389, Canada – NITW.216389)

Standard for Safety for Industrial Control Panels (US & Canada)

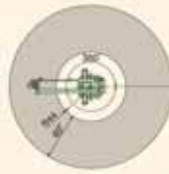
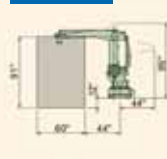
Specifications subject to change without notice



A700



A1600



Dimensions in inches

Revised 11/2005

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