



Universal Demonstration System Hardware System Requirements

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Universal Connect and Pack Demonstration System requirements

Executive Summary

In order to provide a demonstration unit that can be developed for use as an educational tool for the industry to better understand the benefits that the OMAC OPW offers the industry, it is important to have a specific common engineering design platform upon which to build tools. The common engineering design platform will be considered the Workstation in this document.

Each workstation will be required to be identical in form factor and design with complete flexibility with respect to the specific brands of devices chosen for the workstation. The workstation design is meant to develop a table top system. Due to the typical venue for an educational program, standard hotel voltages and deliverables are what the design is built around. The workstation will be required to have some human machine interface display element that is capable of displaying simulated machinery as well as variable process data and control elements. In addition to the display, the workstation will have room for moving demonstrational elements that can provide a more realistic visual demonstration of a specific packaging operation.

The workstations will operate individually as a complete educational station. This educational station will provide a platform for an OMAC Educational series that will demonstrate the benefits of the OMAC Guidelines in a simulated packaging machine. When the workstation is configured in an individual mode, the workstation will simulate a complete packaging line that would be composed of at least 4 elements. Where an element is defined as a packaging type of machine like a filler, a labeler, a pasteurizer, a palletizer, etc.

When connected the workstation will operate in a primary mode (which should be selectable) and connect into other workstations (which are operating in their primary modes). When connected, the workstations will comprise a complete packaging line that will demonstrate the benefits of the OMAC Guidelines. The workstation will be designed so that it is possible to select any one of the 4 machine types (either simulated or demonstrated). The workstation should also be able to select a simulated packaging line with all of the machine types simulated in a single workstation. The appropriate packaging tags should be available as well as simulated production data (ie Reliability data).

In order to address the multiple needs that the workstations will address, the hardware guidelines need to be strictly observed. The software requirements are detailed in an additional document.



Workstation Hardware Requirements

The workstation must meet the following requirements:

- 1) Table Top 2 ft X 2ft X 2ft, 150 Lbs (75kg) MAX
- 2) Plexiglas or similar covering at least 3 of the 6 sides
- 3) Table Under 2 ft X 2 ft X 2ft
- 4) 120 Volts 15 Amps Electric ONLY – No AIR, WATER or other utility hookups
- 5) Finger Safe
- 6) 17” or larger HMI, Computer Screen or other display
- 7) Control architecture capable of
 - a. Processing the necessary OMAC data
 - b. Communication TCP/IP Ethernet
 - c. Demonstrating Packaging Concepts
 - d. Upgradeable
 - e. Scalable

The concept is to simulate a realistic packaging line module. Each module will represent & simulate at least 3 of the following machine types:

- 1) Primary Packaging – (ie. Product Filling)
- 2) Secondary Packaging – (ie. Cartonizing, Case Packing)
- 3) Transportation – (ie. Palletizing, Conveying)
- 4) Auxillary – (ie MES, Washing, Pasteurizing)

Each module should be able to be displayed separately or connected into a larger system of similar workstations. The data to be passed from module to module and machine to machine should be clearly displayed on the monitor or on a specific screen of the monitor.

General Operational Concept

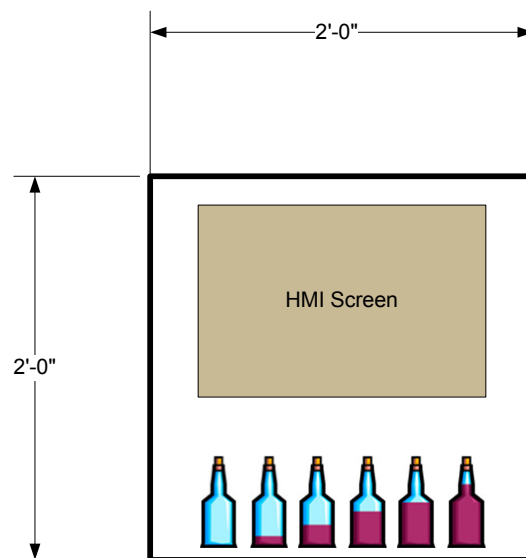
Each workstation unit should be able to be used individually in a training environment based upon the attached software standard for operation. {Software Standard for Operation, OMAC Demo Requirements. Document ID. OPW001-DEMO1, Version 1. Needs to be created}

The specific data that is required to be passed between software module and software module, as well as from system to system is defined in the above document.

Individual Unit Operation

Each workstation unit will need to have the ability to become a hands on workstation for training opportunities. The workstation unit will show at least 3 modules of a packaging line. The demonstration mode can use motors and conveyors to show the specific machine type that will be the primary mode for that particular workstation.

For example, the unit can actually demonstrate the palletizing operation through the use of motors, drives and other hardware. The HMI unit will simulate FILLING, CASE PACKING and then the workstation will actually be the palletizing section.



Possible Unit in Workstation Configuration

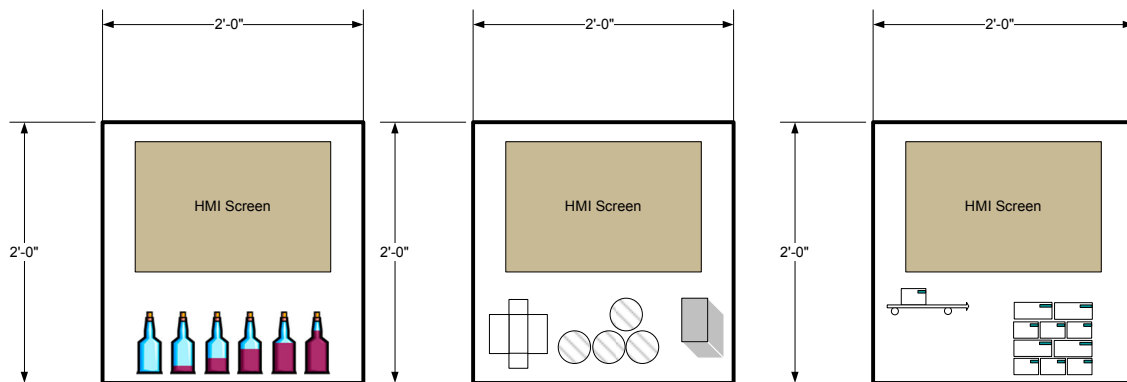
This would provide the opportunity to demonstrate the entire packaging line in a single unit. This would also provide the opportunity for the workstation to show one of the operations and inter-connect to other workstations with different operations.

Multiple Unit (Line Simulation) Operation

Each workstation should be designed to work in a line format with interconnections from workstation to workstation. Some coordination from OMAC will occur to ensure that each workstation supplier chooses a compatible yet different machine type to enable a complete packaging line. The communications from workstation to workstation in the multi-unit line simulation configuration will be defined in the software operation guide.

From a hardware point of view, the interconnection of any one workstation to another should be a software configuration that adapts the display to the setup to show a complete line. In other words, if workstation A can stand alone as a Bottle Filler, Cartoning Machine and Palletizer with the Bottle Filler being the primary display. Workstation B can stand alone as a Form, Fill and Seal Machine, Cartonizer and Palletizer with the Palletizer being the primary display. When Workstation B is connected to Workstation A, there should be a way to prioritize the primary displays and connect the correct data sets from workstation to workstation to show Workstation A as the filler, Workstation B as the Palletizer. Depending upon which workstation is selected as the master, the master would display the third module (Cartoning Machine).

Each workstation should be equipped with at least two standard ethernet connections as per the Software Standard. These connections should be easily and externally accessible and connect with standard RJ-45 connectors.



Possible Units (3) in System Configuration



Decals, Labeling and Advertising

The goal of this demonstration workstation is to provide a platform for proving the benefits of OMAC and Connect & Pack™. There should be no direct company advertising, decals, labels or other material that is meant to clearly advertise the company participating. This will be at the discretion of the OPW Executive Council. This is not meant to put un-necessary burdens

TRADE SHOW ACTIVITIES

The companies that run specific trade shows provide documentation on the rules that are specific to any trade event. It is the workstation builders responsibility to ensure that the workstation that is built would meet these specifications. The specifications are available from the major trade show owner companies. (ie PMMI for Pack Expo)

References

