
Task Focused Workstation Incorporates Ergonomics and Lean Philosophy to Improve Fulfillment Process



A Customized Solution ...

Client's Workstation Requirements:

- A large height-adjustable surface to pack a variety of specialty products, many fragile and precious, in a variety of different sizes.
- Store, dispense and cut large volumes of "bubble pack" in several different sizes.
- Adequate storage on workstation for all packaging materials so replenishment would be once a shift.
- Separate high-speed height-adjustable packing platform to pack outer protective corrugate boxes.
- 1st reach zone storage for 20 different upscale boxes, tissue paper and cloth bags that will provide memorable presentation of quality goods to the end customer.
- 2nd reach zone storage for many sizes of outer protective corrugated shipping boxes.
- 3rd reach zone backup storage rack on casters.

BOSTONtec's ability to quickly design and build specialized task focused workstations with new products like bubble pack dispensers won us the contract.

To ensure efficient and safe packaging, the solution required a workstation that allowed a sufficient inventory of many different packing materials to be available within easy reach for the different sized operators, without constant restocking.

An analysis of the packaging process and volumes, determined how many and how often each size box was needed. This information was then used to identify the most efficient layout of the workstation – placing the most-used items in the most-desirable ergonomic reach zones, and placing the least-used items in less-desirable reach zones. In addition, the box inventory was balanced with usages to reduce the need for restocking often. It was further determined that some low-priority and overstock items could be placed under the packing table work surface or on a rolling storage cart.

The custom station started with a standard BOSTONtec base frame and uprights supporting custom designed shelving and accessories. A large 30" x 110" electric, height-adjustable work surface, with three large dispenser drawers under the surface was provided. Unique bubble pack dispensers were designed and placed within easy reach to the stocking workers on the back of the workstations uprights. These 45-inch-long dispensers held standard sizes of bubble pack rolls, which dispensed to the front of the station where the cutters were placed on the work

surface. With this arrangement, the many different widths of bubble pack could be easily replenished from the back of the station and not interrupt the operators (Figure 1). A specialized trolley with dividers was used under the table to store overflow corrugate boxes (Figure 2). Holders for VDT's, keyboards and status lights were also provided. Additional high-speed electric height-adjustable tables were also provided to facilitate packing the smaller boxes into the shipping corrugate boxes.



In a second off-line workstation, the bubble pack was arranged into a BOSTONtec-designed rolling bubble pack dispenser (Figure 3). Again, the workstation could be restocked with bubble pack with minimum operator interruption. New rolling dispensers were brought to the station fully loaded for that specific application. The empty dispenser could then be removed and replaced with the new filled dispenser which rolls under the workstation and locks into place by simply stepping down on the front of the locking feed assembly. The exchange would take less than a few minutes, and the old dispenser could be refilled off line. Because the operation ran three shifts, with different sized operators, considerations were made on all workstations to allow for easy adjustments of reach-zones.