Step by Step: The Ideal Workbench

JAMES ANDERSON, Vertical Market Manager, Lista Intl.

Purchasing a workbench or workstation may at first seem like a simple task. Your employees have work to do, and they need an efficient, comfortable, and practical place to do it. But behind that deceptively simple proposition may lurk a number of variables that must be considered to make sure you get what you actually need.

So, whether you are looking for technical workstations, height-adjustable workstations, assembly workstations, industrial benches, packing and shipping benches, or accessory systems, take the time to perform the necessary up front work by following this step-by-step self examination that will help you choose the right workbench for all your needs.

What Work Are You Doing?

There’s one overriding consideration that will affect just about every aspect of your workbench purchasing decision: what work will you be performing on it? The answer to this question will affect everything from the size of the workbench to the surface material, storage requirements, and ergonomic considerations.

Once you determine what work will be done on the bench, do an analysis of tasks associated with the work and use it to make a checklist of features needed to perform them. For example, say you’re in the business of assembling and maintaining cell phones, and you need to furnish a workspace for your repair technicians. You want a small workbench, perhaps one that is height-adjustable to bring the detailed repair job up to an optimal work zone and distance. Along with the workbench, you will also need an excellent lighting accessory. You’ll likely also need bins above the work surface to provide direct access to small parts, and an articulating arm that can hold assembly guidelines or diagrams. And depending on the flow of your repair operations, you might want to consider a material transfer

work surface, or even a conveyor workstation, both of which can cost-effectively expedite material handling.

Or maybe you're working in a pharmaceutical lab, where the work surface material becomes a more important part of the decision. Depending on the liquids and solids you're handling, you might want either a stainless steel or epoxy resin chemical-resistant work surface to ensure long-lasting durable use. If your laboratory is in a cleanroom environment, your workstation will need to meet certain NSF International public health and safety standards. You might also need to store a combination of small beakers and instruments with large testing equipment — requiring a variety of storage solutions both above and below the work surface.

For example, Bob Smith, production manager for Automated Circuit Design (ACD), said of his recent workstation purchase, "All the workstations are electro-static dissipative, so they are an ideal solution for every department. In the kitting area, technicians can safely work with ESD-sensitive components. And in the assembly and production departments, every technician can perform the most precise processes effectively. The workstation provides the lighting needed to perform every task with attention to every detail. Additionally, the substantial shelving space offers the area needed to set up stations for testing completed products."

Sizing Up the Solution

The size of your workbench is determined by a number of factors. First up is how much space is available in the work environment — how big a footprint will it occupy? With today's modular workbenches making maximum use of vertical space, you may not need as big a workbench as you think. Next, how much work surface area does your application demand, both in terms of width (left to right) and depth (front to back)? Does the entire work surface need to be within easy arm's reach? Can you position needed items above the work surface on a vertical accessory system for easier access? Will you be working with large equipment or parts? If so, you may not only need a larger work surface, but might also need to factor in the weight-bearing capacity of your workbench.

Workstation Meets Workflow

After thinking about size and footprint, you should consider whether your company's workspace, type of work, and workflow are best served by a group of workstations laid out in a particular configuration. Some companies offer modular workstations that are specifically designed to accommodate different configurations, and thus different types of workflow. Use a design that positions your team for maximum efficiency.

If you're operating with a progressive workflow, you may want to configure your workbenches to create an integrated, moving production line. Flow racks can then be used to stage and deliver parts using gravity, reducing material handling time, point-of-use storage, and cost.

If your team functions in cells or groups, it may be served best by different shaped

configurations that encourage easy communication. Some workstations are available in modules, so they can easily be combined to create everything from in-line and in-line back-to-back configurations to T, U, X, and Y-shaped configurations.

Finally, consider transforming from stationery to mobile workbenches. Mobile workbenches can provide for easy, smooth-rolling relocation. This will accommodate both day-to-day and future changes as well as simplify cleaning activities.

For example, medical device manufacturer Nonin Medical Inc.'s industrial engineer, Bill Hartman, Sr. said, "We took advantage of mobility options to further meet our needs for flexibility — important when we change shifts or applications and want to reconfigure the flowlines."

Everything in its Place

Spend some time doing some careful planning to get a workstation that exactly addresses your storage needs with little or no wasted space. Simplify your storage decisions by reducing the items being stored to only those that directly address your workbench applications. When doing your planning exercise, consider the size, shape, weight, quantity, and fragility of the items to be stored, as well as how accessible they need to be, and how much security they demand.

After determining exactly what needs to be stored, zero in on making the workspace more efficient. Create a designated storage location for every item. Modular drawer cabinet interiors are ideal for custom configuring to produce almost infinite layout options. This high level of organization is particularly important if different people are using the same workbench at different times. Time savings are maximized and inventory control becomes a non-issue.

Let There Be Light

Lighting needs of the different workbench tasks is an important consideration. Does each station need separate lighting? Does the room itself have lighting deficiencies? Does the room light cast an unwanted color? And if you decide you need to equip your workbenches with lighting accessories, are your technicians best served by overhead fluorescent lighting or a swing arm that can be easily positioned and/or moved out of the way when not needed? Do you need an accessory that can diffuse the light and reduce glare?

Power to Your People

After you weigh your lighting needs and options, you should next move on to your electrical requirements. From cleanrooms to quality control departments to research and development functions, having a convenient source of power at each workbench can be essential. There are diverse options to consider — from power beams and air beams to air supply brackets and cable management accessories. You can narrow your selections down to the necessary few by asking the right questions:

- Will each workbench be home to a computer monitor and other computer equipment? Do you need a data beam? Will the tasks at hand require compressed air, and what is the source of that air?
- How many outlets do you need at each workbench (and how much power)? Where should the outlets be positioned? Do you require a ground-fault circuit interrupter (GFCI) to provide protection against severe shock and electrocution?
- Consider cord management, both from an aesthetic point of view, as well as the safety factor. To keep power cords from becoming tripwires, cable trays may be needed.

The Right Accessories

Think about the impact that add-on accessories might have in improving the employees' job functions. No matter what the task, there's an accessory option to help get the job done more efficiently and conveniently. By taking advantage of the abundant vertical space above the work surface, and the many interchangeable accessory options available, you can create a highly efficient work center that is tailored completely to the needs inherent to jobs being performed in the workspace. Examples include shelving for manuals or instruments, parts bin rails, a monitor bracket, or a keyboard holder..

Improved Adaptability

Most companies have multiple departments, from manufacturing to testing to shipping. Consider using a common workbench platform throughout the facility to gain such benefits as better utilization of inventory, easier reconfiguration, interchangeability of accessories, and aesthetic appeal.

Standardization allows efficient swapping of accessories among departments, and facilitates adjustments if work tasks change. Colors and designs match, and there are no surprises when employees shift to a different department.

Last Steps

If you choose a workbench provider who offers maximum breadth of product and flexibility, you'll be able to view all of your workbenches as part of a complete picture, although each may have been custom-built to accomplish a unique task.

The end result? Many smart steps for each department and one giant leap for your business.

For more information, please visit www.listaintl.com [1].

Source URL (retrieved on *12/08/2013 - 6:51pm*):
http://www.chem.info/articles/2010/03/step-step-ideal-workbench?qt-recent_content=0

Links:
[1] http://www.listaintl.com/