

How to select your next Screwdriving Machine

Understanding your screwdriving equipment source does not have to be complicated. It is important to select the proper source by matching the intended purpose with the actual obtainable result. In short: detail the needed application as clearly as possible and match it with a source capable of fulfilling this need.

The first consideration has to be given to the application method and whether it is to be a “handheld” application [includes an Operator to position the equipment] or a “stationary” application [uses a mechanical slide to position the equipment]. Once the application method has been determined, the required process can be considered.

However, today’s products sometimes require special processes, where multiple screws have to be assembled, using the same equipment. Additionally, the requirement may include several different torque and angle values, the use of different bits or sockets and on top of that, the system needs to be designed using a “Lean” Manufacturing methodology!

Example Requirements

- Different fasteners
- Different torque or angle values
- Different fastener drives (bit/socket)
- “Lean” execution
- Handheld Assembly
- Fast Cycle Time
- Part Presence Verification

Application Considerations

A standard and straightforward process would be the assembly of a product with one size of fastener driven to a predetermined torque. Those types of applications are easy to process, using only the most standard available components, such as a feeder bowl with a pneumatic, torque-controlled screwdriver for a handheld application or a screwdriver with an automatic positioning slide for a stationary application.



Available Solutions

The use of the "Toolbox TB 7" in combination with an EC-Electric Screwdriver (brushless DC-motor) offers a perfect solution for those types of applications. This toolbox incorporates cavities for seven (7) different bits/sockets and each cavity can be pre-programmed to a different torque, speed, angle, etc. Once the operator removes a bit/socket, the AST30 controller activates the pre-programmed setting, eliminating any time-consuming selection process and programming change.

The station could include feeder bowls as a possible option, which are tooled to accept specified fasteners. It is recommended to provide each feeder bowl with refill hoppers, to increase up time. Additionally, the workstation should be equipped with a poke-yoke part-fixture, which verifies all components are loaded and assembled accurately. Should the cycle time demand it, then multiple stations can be provided using the same work area.

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