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## **Benefits of Compact Tablet Counters, Fillers (Bigger Isn't Always Better)**

**The advantages and new uses of compact tablet and capsule counters and fillers**

**by Michael Stotz**

When it comes to tablet and capsule manufacturing for the dietary supplement industry, bigger is not always better. For many scenarios in the manufacturing of vitamins, dietary supplements and nutraceuticals, the right technology is not a multi-million dollar packaging line. The right technology, in fact, can be a simple tablet counter and semi-automated bottle-filling device. For instance, small counting technology is perfect (and perfectly affordable) for:

- quality checks on the packaging line or in the R&D lab;
- low- to mid-volume bottling where it is not practical to use a full-scale production line;
- inventory counts; or
- finishing a bottling run from an automated filling line.

Tablet counters aren't new technology, and have been in active use since the 1970s. But the accuracy and reliability of these devices has continually improved. Today, hundreds of dietary supplement and pharmaceutical manufacturers and laboratories have a tablet counter running in harmony with their full-scale filling lines. These companies have benefited from increased packaging speed, accuracy and peace of mind.

There are several examples where a small counting device may be ideally suited. First, consider its usefulness in quality assurance (QA) and quality control (QC) on the packaging line or in an R&D laboratory. Whatever the form of hand-counting—counting tray and spatula or “peg board”—it is inherently inaccurate. A 2004 study conducted by the Thomsen Group found humans are at best 95 percent accurate in hand-counting medications with a counting tray and spatula. That accuracy rate drops precipitously with sub-par lighting, distractions and workload. A tablet counter, on the other hand, is close to 100 percent accurate. It counts any size or shape tablet or capsule. Many tablet counters are small enough to be carted around the facility and are inexpensive enough to be placed near every bottling line.

Additionally, as with QC checks, using a tablet counter instead of hand-counting can cut significant time during an inventory process, not to mention eliminate a highly tedious task. Some tablet counters are hands-free and allow the technician to multi-task while the device handles the counting.

Another prime example is in the case of low- to mid-volume bottling where it is not practical to use a full-scale production line. For production runs of 50 bottles to a few thousand bottles per day, a smaller device is ideal, particularly for contract manufacturers that find they turn away “smaller business” because they can't afford to disrupt their automated production lines. Or for manufacturers that are bringing manufacturing back inside, but need to watch capital expenditures; or for clinical trial filling. These devices handle any size and shape tablet or capsule; many need no calibration to change between orders. They also accommodate any size

bottle or vial. Cleaning between runs takes less than five minutes. These are simple devices to set up, learn and operate.

Finally, consider how the use of such a small device could assist in finishing a bottling run from an automated filling line. The end of a bottling run on a fully automated bottling system may result in uneven amounts of product in each filling line or slat. Semi-automated bottle filling devices allow the lot to be completed efficiently and quickly. This eliminates waste and ensures accuracy.

On top of these specific scenarios, there are many benefits of simple, yet highly accurate tablet counters and bottle filling devices.

- **Low price point:** A simple tablet counter for foolproof check counting can run less than \$6,000. A semi-automated bottling device capable of counting and filling 800 up to 1,900 tablets per minute costs from \$7,500 to \$15,000. **Tiny footprint:** Taking up less than 1.5 square feet, requiring almost no remodeling, and frequently are light enough to be wheeled around on carts to service more than one filling line.
- **Easy to install and learn:** They can be taken out of the box and be working in fewer than 10 minutes. This means no downtime, complicated tutorials or staff dissatisfaction.
- **Clean in minutes, not hours:** and need no calibration for different types of medications.
- **No need for technology support:** No tricky interfacing to add complexity to the project, and no incremental connection costs.

When looking at options, there are several considerations. Ideally, look for a counter with few or no moving parts, as the less complex devices have less chance of breaking down. Also, ask about cleanup requirements (straight water versus mandatory cleaners), including the time necessary for cleanup. Price is also a consideration. These devices are designed to be simple to acquire and to operate; however, consider also purchasing an annual service contract to cover the bases. While used equipment may seem like it offers advantages, often they come without a warranty and may be missing parts or operating manuals.

Still not convinced? Many suppliers will offer a free trial of the device, to allow companies to use them in real-world applications. In most cases, the results are positive: faster production, fewer errors and less labor. In some applications, semi-automatic counter-fillers pay for themselves in a few months.