

MICROTAPE™ SYSTEM



Tomtec (located in Hamden, CT) announces the development of its new *Microtape™* System. The System is designed for high throughput applications in both Drug Discovery and Genomic research programs, where conservation of precious reagents is a requirement. *Microtape™* is a sprocket driven carrier tape in the 384, 10µL well volume format. It provides a highly automatable format for assay purposes. Depending on the assay, the System can complete a 384 pattern of wells within two (2) minutes, which equates to 11,500 samples per hour.

The basic System moves the *Microtape™* through a binary punch, which provides sample identification for each 384 well pattern. The System contains multiple pipetting stations. A single row (16 well) pipettor is available to handle precious samples. 48µL can be aspirated, and 2µL dispensed into each well in that column. A typical application would be adding master mix for a PCR reaction. A 384 well pipettor is available to simultaneously add DNA or compound aliquots.

The pipettors have the same proven Tomtec positive displacement design, capable of delivering 0.5µL up to 60µL, with a C_v of 2-3%. Both pipettors have automated infeed/outfeed capability from stacker cassettes. The source may be 384 well plates or reservoirs of any configuration. In between transfers, the Teflon coated pipettor tips can be washed in a circulated ultrasonic tip wash station. For nanoliter transfers, a pin tool is available.

The System provides a means of heat sealing each 384 well pattern of the *Microtape™*. A sealing film provides a uniform seal around each well. A Peltier cooling device prevents dangerous heat transfer to the contents of the wells. The sealed *Microtape™* is then rewound onto a 16-inch diameter roll, which holds over 260 patterns, or 100,000 samples. The System also provides a means of automatically unsealing a previously processed roll of *Microtape™*. This permits automated access to the contents of the wells for further processing.

The prototype *Microtape™* System will be going to Marshfield Clinic, the site of NIH's Geneotyping factory, for evaluation in conjunction with a PCR application. The PCR will be accomplished by submerging the sealed roll into a controlled water bath.

Microtape™ is ideally suited for mass storage and recall of small aliquots. A 16-inch diameter by 4-inch wide roll, holds 100,000 5µL samples in a sealed environment. Reformatting, storage and distribution of the compound library for High Throughput Screening is an ideal use of the *Microtape™* System. From one freeze/thaw cycle of the library Mother plates, 10 or more replicate copies, in 5µL aliquots can be made, stored frozen and distributed on demand. Further developments are underway to expand the applications for the *Microtape™*. In-line incubation and detection for fluorescent-based assays will be available later this year. For further information, please contact: Tom Astle, President

Additional information is available at: www.tomtec.com

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