

QUADRA PRODUCT LINE

Tomtec's Quadra product line consists of a family of liquid handling workstations for microplate processing, across a wide range of life science applications. This report is focused on specific Bioanalytical applications. They are primarily related to sample preparation, using protein precipitation, solid phase extraction or liquid/liquid extraction. These are techniques to isolate the analyte of interest from the matrix of the incoming clinical samples. A primary criteria, is that the work must be accomplished in a regulated environment, requiring GLP type of operational conformance.

Tomtec has developed the Quadra 4 product line to replace the Quadra 3 product line. The difference between the Quadra 4 and the Quadra 3, is the controlling computer system. The Quadra 3 requires an external laptop computer to run the software. The Quadra 4 has the computer system self contained within, and a 15 inch LCD front panel display. Due to the organics commonly used, many Quadras are used within a hood enclosure. The internal computer means, less space is required in the hood, for the Quadra 4, than the Quadra 3.

There are 3 models of the Quadra for Bioanalytical applications. The difference is, in cost and automation. All use the same pipettor head and software control system. They all have common programming.

The Quadra 4 is the top of the line. It has 2 pairs of plate stackers that provide full plate handing automation. They can restack the source plate for continuous processing of the destination plates. The 6 station shuttle is common to all Quadra models.

The Quadra 4 has a full indexing stage. This provides reformatting from 96 well plates to the 384 well format. A common application is, reformatting four 96 well sample preparation plates, into one 384 well plate for the HPLC on MS auto sampler. The plate stacker fully automates that sequence for several plates. The indexing stage also enables serial dilution testing in either the 12 or 8 direction.



A fully automated filtration system is available for the Quadra 4. An automated hand, an automated vacuum box, and program controlled vacuum trap, are the primary components. Tomtec is currently developing a system for the Quadra 4 to use both vacuum and pressure for filtration protocols.



The Quadra 4NS is the middle component of the product line. It has the indexing stage of the Quadra 4, but does not have the plate stackers. It can be supplied with a manually operated vacuum box, however, the automated vacuum box system is not available for the Quadra 4NS. We have control of vacuum amount and duration through the software as an option.



The Quadra 4 SPE is the lowest cost version. It is supplied without stackers. It does not have the indexing stage of the Quadra 4, or the Quadra 4NS. The stage on the Quadra 4 SPE provides vertical motion control between the receiving plate and the pipettor tips. It does provide a touch-off function.

The above states the basic differences between the three Quadra 4 models. They all share common accessories, except the automated vacuum feature of the Quadra 4. For example, all will accommodate the nitrogen dry down feature. This allows dry nitrogen to be blown through the tips to evaporate organics. The nitrogen cannot be heated, due to the thermal mass of the pipettor head assembly. All models will accommodate the various pipettor head assemblies Tomtec has available.

The difference between the Quadra 3 product line and the new Quadra 4 product line is the computer system. The Quadra 3 requires an external computer for operational control. That computer is not included in the base pricing. The Quadra 4 has the computer system internal along with a 15 inch LCD display. The computer runs on Windows XP.