

Honeybee 963

Protein Crystallization System.



Key Benefits

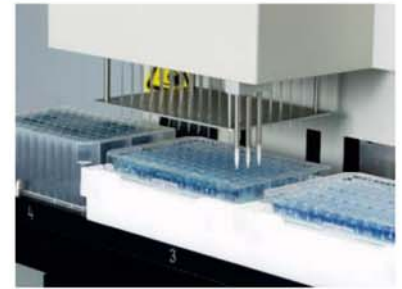
- Screen multiple proteins in a single experiment
- Cost effective protein crystallization
- Simple experiment set-up
- Elimination of carry-over
- Accurate and precise transfer of viscous screening solutions
- Minimized evaporation

The Honeybee 963 from Genomic Solutions is a **high speed, bench-top system for the miniaturization of sitting drop protein crystallization experiments**. The simple system set-up supports all commercial plate formats and is well suited to a multi-user environment. The Honeybee 963 uses **new software** specifically designed for easy programming of a wide range of protocols including more complex studies using multiple proteins and combinatorial techniques.

Low volume dispensing of precipitant solutions to both reservoirs (*microliters*) and shelves (*nanoliters*) is realised using a market-proven 96-position syringe dispenser while proteins are added via 3 separate synQUAD™ channels. Proprietary synQUAD technology provides **fast, precise and accurate non-contact dispensing** of up to 3 protein solutions or protein-ligand combinations at nanoliter volumes. The Honeybee 963 maintains precision at these volumes even with challenging solutions such as detergents and viscous precipitants *e.g.* 30% 8K PEG.

Design Specifications

Dimensions	28.5" W x 16" D x 21.1" H (0.73 m x 0.41 m x 0.51 m)
Power Requirement	110 - 240 VAC, 50-60 Hz (auto-switching)
Weight	36 kg

**Key Features****Multiple synQUAD channels increase flexibility of experiment design**

Multiple protein conditions can be primed simultaneously, without compromise on plate preparation time, and screened against each precipitant solution. Each synQUAD channel requires a minimal aspirate volume and, using only a single channel per protein solution, ensures efficient use of even the smallest samples.

Multi-functional system ideal for research environment

The Honeybee 963 with its small footprint is ideal for smaller labs where space is a premium. The capability to dispense into reservoirs as well as the shelves in any crystallization plate makes this 2-in-1 system a cost effective solution even for lower throughput researchers.

User friendly software

Windows 2000, XP based OS with Honeybee GUI.

New software designed for simple set up of multiple sitting drop crystallization experiments.

Efficient tip washing

Patented dispensing technology eliminates carry over by efficient tip washing using a chimney water bath. This technology eliminates the need to purchase expensive disposable tips.

Honeybee 963 for precise and accurate dispensing

High resolution syringe pumps ensure precise and accurate dispensing of precipitant solutions while accuracy of the x-y axis ensures positioning of the protein drop on top of the precipitant.

Dispense Precision	96 channel head: < 10% CV with both deionised water and 30% 8K PEG at 0.1 µL to 100 µL
Dispense Volume	96 channel head: 0.1 µL to 100 µL

SynQUAD dispensers synchronize high speed microsolenoid valves with high resolution syringe pumps for accurate dispensing of protein volumes as low as 100 nL. Fluidic inertia from the synQUAD channel ensures efficient reagent mixing at nanoliter volumes.

Dispense Precision	synQUAD channel: < 7% CV with deionised water at 0.1 µL to 1.0 µL
Dispense Volume	synQUAD channel: 0.1 µL to 1.0 µL

Rapid Plate Preparation

The Honeybee 963 takes only 2 minutes to complete the set up of a 96 well crystal plate with precipitants and multiple proteins thereby minimizing the risk of sample evaporation.