

# Honeybee 161 and 81

## Bench-Top Protein Crystallization Systems.



### Key Benefits

- Conservation of valuable protein
- Elimination of carry-over
- Rapid plate preparation
- Multiple crystallization techniques
- Minimization of evaporation
- Accurate and precise dispensing of viscous screening solutions

The Honeybee 161 and 81 from Genomic Solutions are **bench-top systems for the miniaturization of protein crystallization experiments**. With hardware specifically designed for protein crystallization, the Honeybee systems can be set up for **sitting drop, hanging drop or microbatch applications**.

**Low volume (nL) dispensing** of the precipitant solutions is accomplished using market proven **synQUAD™ technology** across 8 or 16 channels while protein is added via an independent synQUAD™ channel. The Honeybee 81 and 161 utilize the proven, proprietary Cartesian synQUAD™ technology from Genomic Solutions to provide **precise and accurate non-contact dispensing of low volumes and conservation of valuable protein sample**. The non-contact synQUAD™ technology maintains precision at low volumes with even the most challenging solutions such as detergents and more viscous solutions e.g. 30% PEG. The systems are available with 8 or 16 synQUAD™ channels, ensuring any user, regardless of throughput, can benefit from Honeybee technology.

**Design Specifications**

<b>Dimensions</b>	48" W x 35" D x 20" H (0.73 m x 0.41 m x 0.51 m)
<b>Power Requirement</b>	110 - 240VAC, 50-60 Hz (auto-switching)
<b>Weight</b>	75 kg

**Key Features****synQUAD™ technology to reduce protein loss**

Protein is added via a single channel reducing loss of valuable protein samples due to aliquoting. Minimum aspirate volumes ensure effective use of even the smallest protein samples. The Honeybee systems also come with chilled protein vial holders as standard to ensure protein integrity.

**Efficient tip washing**

Patented non-contact dispensing technology eliminates carry over by efficient tip washing and also has the added benefit of eliminating the need to purchase expensive disposable tips.

**On-the-fly dispensing**

The Honeybee systems use synQUAD™ technology for dispensing protein solutions "on the fly". This non-contact approach does not require a washing step ensuring fast reagent delivery. Protein sample can be dispensed across a 1536 well crystallization plate in less than 60 seconds using this technology.

**Compatible with multiple crystallization techniques**

The Honeybee 161 and 81 systems have been specifically designed for protein crystallization and can be programmed for sitting drop, hanging drop or microbatch crystallization techniques.

**Humidity chamber**

The Honeybee 161 and 81 are fitted with a humidity chamber as standard to reduce the rate of evaporation, giving the user 100% confidence that samples will be protected throughout each experiment.

**synQUAD™ technology for reliable and precise dispensing**

synQUAD™ dispensers couple high speed microsolenoid valves and high resolution syringe pumps for accurate on-the-fly dispensing of low volumes.

<b>Dispense Precision</b>	< 10% CV's with deionised water at 0.05 µL to 1.0 µL
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<b>Dispense Volume</b>	0.05 µL to 1.0 µL
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Resolution of the x-y-z motion ensures accurate positioning of the protein drop on top of the precipitant. The fluidic inertia provided by this non-contact dispensing then ensures thorough mixing of solutions in every experiment.



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