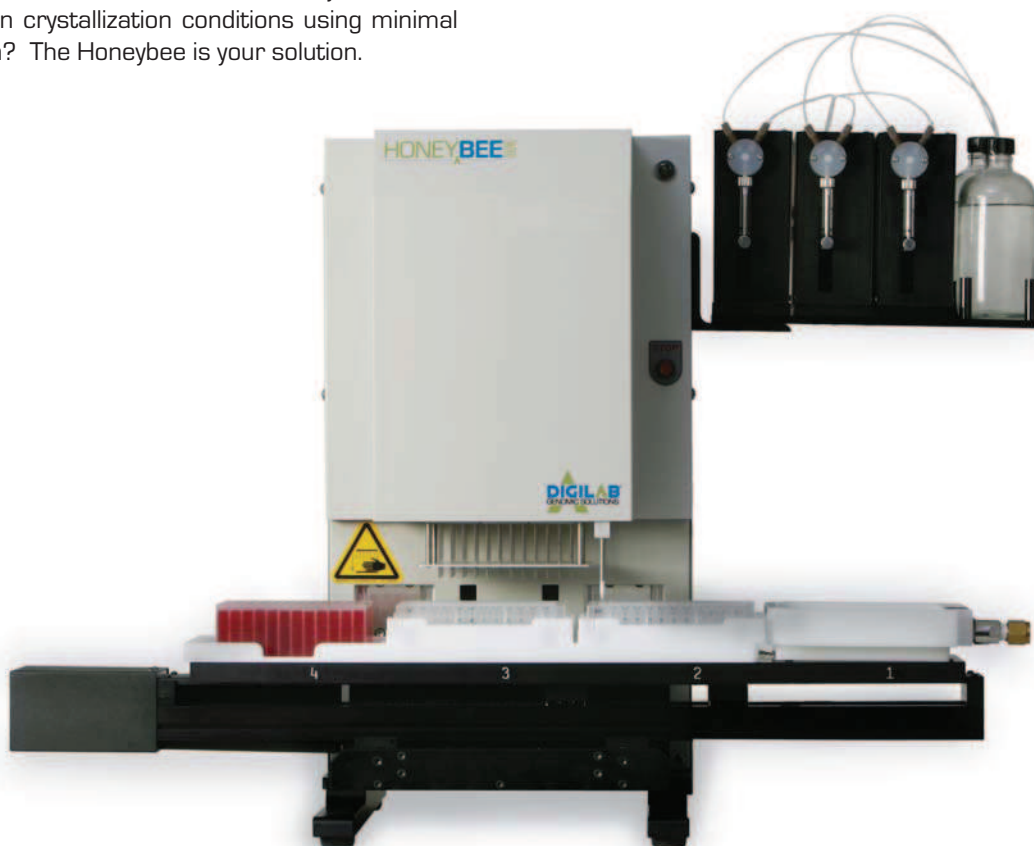


this is a test

HONEYBEE^{5/8}

Miniaturized protein crystallization in the fast lane.

Looking for the fastest and most accurate way to screen hundreds of protein crystallization conditions using minimal amounts of protein? The Honeybee is your solution.



Speed up your crystallization experiments!

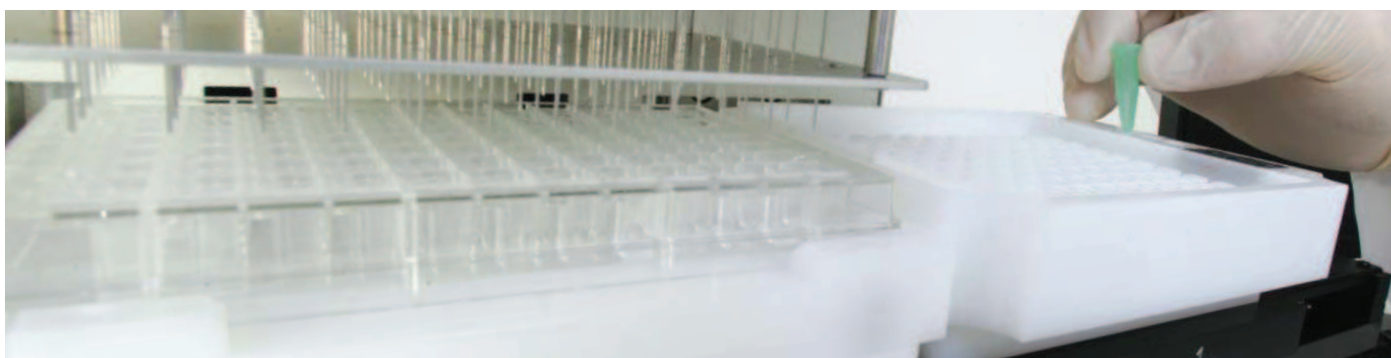
DIGILAB[®]

The HoneyBee features:

- ✧ 2 minute plate preparation
- ✧ Filling reservoirs and shelves
- ✧ Minimized risk of evaporation
- ✧ synQuad™ non-contact nanoliter protein dispensing
- ✧ No risk of cross contamination
- ✧ 96 tip nanoliter dispenser for dispensing 96 different conditions at a time
- ✧ Precise transfer of viscous solutions
- ✧ Vapor diffusion crystallization (sitting drop or hanging drop and micro-batch)
- ✧ Rapid experiment setup



The Honeybee 961/963 can set up hundreds of protein crystallization conditions in a matter of minutes, using as low as 100 nl of protein per well.



Experimental Setup

Protein crystallization requires the screening of the protein of interest against hundreds of screening conditions with quantities of the protein of interest being the limiting factor. The Honeybee 961/963 dramatically reduces the volume of protein used in each experiment with the help of synQuad™ technology, allowing the number of conditions that can be screened to be maximized ensuring a greater chance of crystal growth.

Vapor Diffusion: Sitting Drop & Hanging Drop

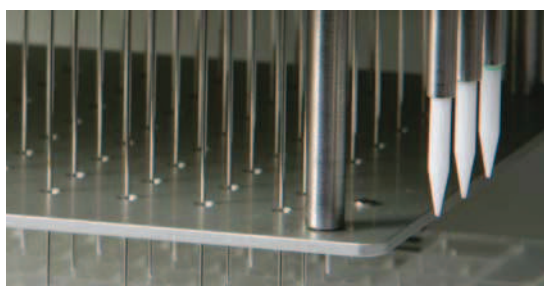
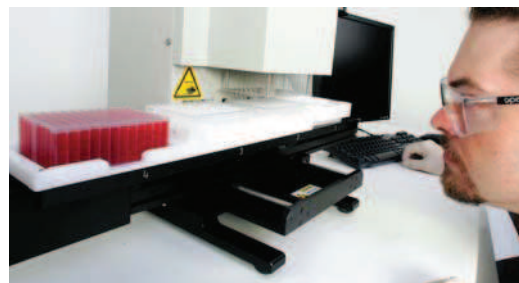
With the Honeybee 961/963, both Sitting Drop, and Hanging Drop Vapor Diffusion experiments can be setup easily, and rapidly using the 96 well format sitting Drop plates and Hanging Drop plate covers.

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Patented synQuad™ Technology for Protein Dispensing

synQUAD™ dispensers couple high-speed micro-solenoid valves with high resolution syringe pumps, and high resolution XYZ axis for accurate and precise on-the-fly non-contact dispensing of protein volumes as low as 100 nL in less than 20 seconds. Carry over is eliminated by efficient tip washing using a chimney water bath. High accuracy on the x-y axis ensures correct positioning of the protein drop on top of the precipitant.

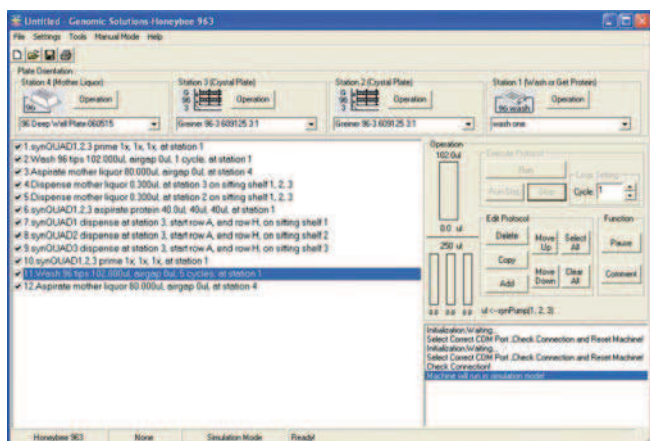
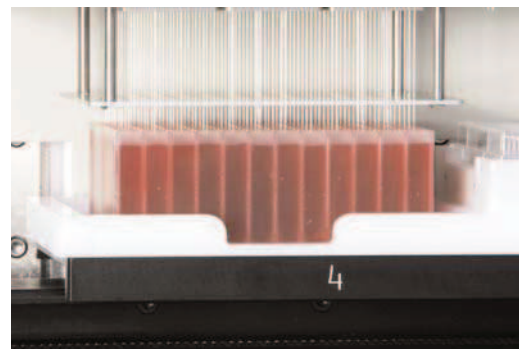


961 Versus 963

While in the Honeybee 961 protein is added via a single synQUAD™ channel, the Honeybee 963 provides 3 independent synQUAD™ channels, increasing the flexibility of the experimental design. Three different experiments can be set up automatically in each well of a crystallization plate, without compromise on plate preparation time.

High Precision with Viscous Precipitant Solutions

Dispensing of the screening solutions to both reservoirs and sitting shelves, from a deep well source plate in to any crystallization plate is accomplished using a market-proven 96-position syringe dispenser. The Honeybee 961/963 maintains precision even with more challenging solutions such as detergents and more viscous solutions such as 30% PEG.



User Friendly Software

Click and play software allows the user to easily set up multiple sitting drop crystallization experiments. The instrument is compatible with all commercially available plate formats and the software allows simple set up of screens into the user's choice of plates.

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HoneyBee Specifications

Number of crystallization plates:	2	Number of synQUAD™ Dispensers:	Honeybee 961: 1 channel Honeybee 963: 3 independent channels
Plate Formats:	All commercially available	synQUAD™ Dispense Volume:	0.1 µL to 1.0 µL
Precipitant/ Mother Liquor Source:	Standard or deep-well plates	synQUAD™ Dispense Precision:	<10% CV at 0.1µL to 1.0µL
Protein Source:	Microcentrifuge tubes	96 Channel Head Dispense Volume:	0.1 µL to 100 µL
Precipitant/ Mother Liquor Dispense:	- 96 syringe dispenser - As low as 100 nL in shelves - Up to 100 µL in reservoirs	96 Channel Head Dispense Volume Precision:	<10% CV at 0.1µL to 100µL
Protein Dispensing:	Proprietary synQUAD™ non-contact technology combines high-speed micro-solenoid valves, high resolution syringe pumps and high resolution XYZ axes for accurate and precise on-the-fly dispensing of volumes down to 100 nL	Plate Preparation:	2 minutes for a 96 well plate



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