

Precision™ Microplate Pipetting System

Liquid Handling - Automated Microplate Pipetting Systems

Overview:

Precision™ is an affordable, innovative solution for automated 96-/384-well microplate liquid handling. With its ability to perform virtually any routine liquid transfer, Precision replaces manual pipetting.

The configurable multi-station platform and powerful onboard software allow for customized applications. The unique XY transport design provides effortless 96- to 384-well plate transfers with the same pipette mechanism. Additionally, robotic plate handlers can be seamlessly interfaced to Precision via an available ActiveX® component. Bio-Tek's proprietary pipette technology provides a reliable way to pick up and seal standard tips with controlled force. Precision solves the sealing issues associated with conventional pipettes.

Precision offers a variety of fluid transfer operations including:

- Reagent addition
- Mixing within a well
- Serial dilutions
- Rapid Dispense Mode
- Plate replication
- Sample transfer
 - Plate-to-plate (96 to 96, 384 to 384, 96 to 384)
 - Within a plate



Features:

Hardware:

- Pipette:
Precision's uniquely designed pipette is made up of 12 or 8 individual syringes and guarantees reliable tip pickup. Each syringe is free floating within the body of the pipette. When tips are picked, the syringes are free to move up to accommodate differences in height and radially to accommodate deviations from ideal position. Precision achieves the most reliable seal on all tips with equal force.
- Work Surface:
Precision comes equipped with a user configurable platform. A reagent trough, disposable tip container and up to six 96- or 384-well microplates can all be positioned where they best suit your application. The entire platform can be removed for easy cleaning. When pipette tips are used, a programmer can decide whether to return the tips to the source for reuse or discard in the waste vessel provided.
- Robotic Compatibility:
Robotic compatibility is a standard feature with Precision. The configuration of the platform combined with its XY transport capability make Precision compatible with robotic plate handlers. An ActiveX™ package is available for simple integration.
- Rapid Dispense Mode:
Precision ensures fast, flexible and precise automated liquid delivery. Rapid Dispense Mode is made possible with an optional manifold. A separate positive displacement pump allows for the continuous rapid dispensing of reagent from any size reservoir to both 96- and 384-well microplates.
- Safety:
Precision optimizes safety in today's laboratory. As an automated pipetting system, Precision helps eliminate repetitive motion injuries. Its compact size makes Precision ideally suited for installation into a biological safety cabinet. When installed on the lab bench, an optional protective cabinet is also available to prevent aerosols. This protective cabinet shields the operator while Precision is running. An internal software safeguard is available at any point in the liquid transfer if a pause or program abort is necessary.

Software:

- Pre-Defined Demo Programs, Program Creation Ability:
Precision comes pre-installed with some of the most common pipetting routines, including reagent additions, serial dilutions and plate-to-plate transfers. The software is thoughtfully designed to enable the user to copy an existing demonstration protocol and simply modify it to meet specific requirements. Up to 80 program files can be stored in memory. The user has the ability to create, edit, copy and delete files from the external keypad with a 2 x 24 character display. Virtually any liquid transfer parameter can be customized. Configurable aspiration depth ensures that tips don't touch the bottom of wells while managing sensitive cell assays.
- Validation, Printing, Lock Feature:
Precision offers an automatic validation utility which ensures proper creation or modification of protocols before any liquid transfer can take place. This feature conserves time and expensive supplies. After a protocol is created or modified, parameters can easily be printed for an additional verification. A convenient lock feature is also available for security purposes.
- QC Programs:
Precision comes equipped with pre-programmed protocols for Installation Qualification, Operational Qualification and Performance Verification

needs. Each instrument is factory tested for optimal precision and accuracy performance. Performance documentation accompanies each instrument, and tests can be easily duplicated by the user.

Models:

Model	Precision™			
Part #	PRC384U	PRC384/12	PRC384M	PRC384
96-/384-well	—	—	—	—
8-channel pipette	—	—	—	—
12-channel pipette	—	—	—	—
Single-channel pipette	—	—	—	—
Bulk dispense	—	—	—	—

Precision is available in several configurations. All configurations support 96- and 384-well microplates and are robot compatible.

— Part Numbers

PRC384

8-Channel Precision™: Automated pipetting system with 8-channel liquid transfer capability.

PRC384/12

12-Channel Precision™: Automated pipetting system with 12-channel liquid transfer capability and rapid dispense mode.

PRC384M

8-Channel Precision™: Automated pipetting system with 8-channel liquid transfer capability and rapid dispense mode.

PRC384U

Universal Precision™: Automated pipetting system with both 12- and 8-channel liquid transfer capabilities. Includes rapid dispense mode.

Accessories Included:

- Operator's manual
- 4 microplate holders
- 4 pipette tip box/reagent reservoir holders
- 4 50 ml and/or 3 65 ml reagent reservoirs
- Priming trough draining set (7110015) (Included with bulk dispenser option only.)
- Maintenance kit
- Serial cable
- Printer cable

Optional Accessories:

- [Precision Power™ PC Software](#)
- Pipette tips
- Protective aerosol cabinet (for stand-alone use)
- Product Qualification Package
- Precision ActiveX Programmer's package
- Many additional labware adapters are available. Inquire for more details.

Specifications:

Microplate types	Any microplate (up to 384 wells) or reservoir compatible with 9 mm spacing between channels.
Processing speed	Aspirate/dispense 100 µl of 96 samples to 96-well plate, tip change: <3 minutes Dispense 100 µl to 96-well plate: <14 seconds
Fluid delivery	Pipette: Air displacement syringes Dispenser: Microprocessor controlled syringe pump
Dispense accuracy	Pipette: 1% at 100 µl typical Dispenser: 1% at 100 µl typical
Dispense precision	Pipette: 1.5% CV at 100 µl typical Dispenser: 1.5% CV at 100 µl typical
Pipette	8- or 12-channel (1-120 µl)
Pipette tips	Bio-Tek and other standard pipette tips
Dispenser	8- or 12-channel (10 µl - 10 ml)
Supply bottle volume	2 liters

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Onboard software	Multiple pre-programmed protocols. Up to 80 created and stored for instant recall.
PC software	Precision Power (optional)
Power	100 to 240 V _{AC} , 50/60 Hz, < 0.7A
Dimensions	Instrument only: 15" D x 21" W x 16" H (374mm D x 525mm W x 400mm H) Instrument with optional cabinet: 17.5" D x 23" W x 17.5" H (435mm D x 575mm W x 435mm H)
Weight	Instrument only: 28 lbs (12.7 kg) Instrument with optional cabinet: 38 lbs (17.2 kg)
Regulatory	For in vitro diagnostic use (Except in the European Union). All Bio-Tek microplate instrumentation is CE and ETL marked. For details on approvals and standards compliance, please contact Bio-Tek.
Automation	Compatible with Bio-Stack™ Microplate Stacker (8-channel models only). ActiveX available for other integrations.