iotaSciences

isoPick

TECHNICAL DATA SHEET

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INTRODUCTION

The isoPick is a compact system designed to automate single-cell picking and enable easy selection and verification of single cells in small volumes. This scientific instrument is compatible with a wide range of downstream applications and is one of the smallest, yet efficient and gentle single-cell pickers available to researchers.

SINGLE-CELL VERIFICATION

The isoPick plates single cells into GRID chambers, which do not suffer the optical edge effects of conventional plasticware. As a result, your single cells are visible immediately in a single field of view after plating, enabling easy verification using any inverted microscope with 4x/10x objectives.

WORKFLOW AUTOMATION

The isoPick gently isolates your cells with a low pressure of <0.5 psi, ensuring extremely low shear stress to maintain cell integrity and viability. The automated single-cell isolation workflow enables high consistency within your experiments via the integrated nanolitre fluid handling system. This eliminates many of the manual pipetting steps that can often be sources of experimental variation at low volumes.

FLEXIBLE APPLICATIONS

The isoPick is designed with flexibility in mind, not limiting users to a single collection format or specific experimental workflow. Cells can be deposited into several popular formats suitable for a variety of downstream single-cell applications. Whether you're planning on performing cloning, genomic analysis or mass spectrometry, the isoPick can be integrated as part of your experimental design.

INTEGRATED COOLING

Optional sample cooling is available for the entire picking workflow with the simple addition of cooling blocks for any application that requires this capability. The quick slide and lock fitting makes attachment easy and rapid cooling is achieved within minutes.

COMPACT SYSTEM

The small footprint of the isoPick easily fits inside any biosafety cabinet, with room to spare. The integrated touch screen provides an intuitive step-by-step guide through the picking workflow. If necessary, the isoPick can even be moved by a single person due to its low weight.

scPICKING PLATFORM

The isoPick can be used as a standalone unit or with an isoHub as part of the iotaSciences scPicking Platform. The isoHub makes identifying single cells easy and efficient and allows the optional addition of imaging and fluorescence capabilities. A wireless connection between the isoPick and isoHub enables both systems to automatically synchronise data for a more seamless picking workflow

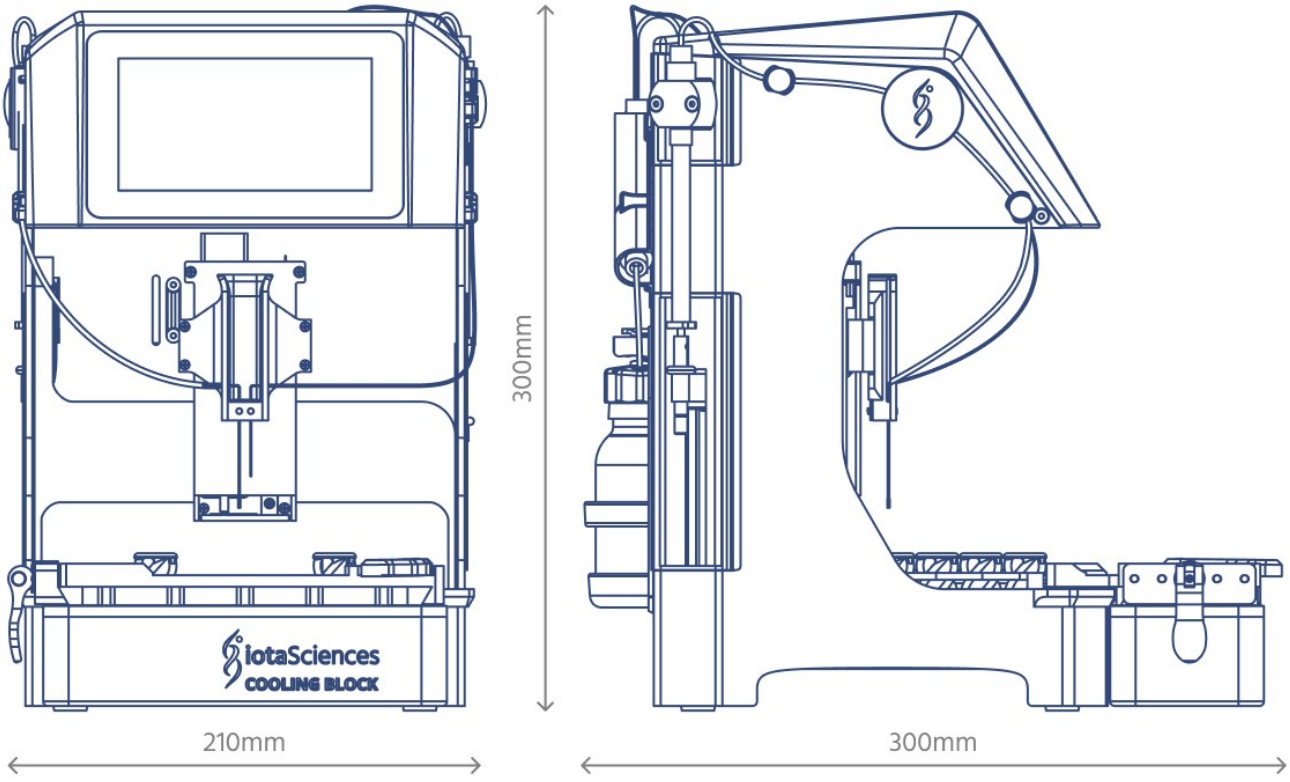
SPECIFICATIONS

AUTOMATION	• GRID generation • Single-cell plating • Built-in sterilisation procedures • Automated maintenance and calibration routines • Up to 36 users with nine colour-coded dishes per user • Detachable cooling blocks cool the bed to aid picking from GRIDs, with on-screen alerts when they need to be replaced
GRID DETAILS	• A single GRID contains 256 chambers in a 60 mm dish • Compatible with commonly used reagents • Chamber area: 3.24 $mm^{2.}$ • Chamber volume: 200 nL • Up to 94 single-cell chambers per dish (based on Poisson distribution)

COLLECTION VESSEL OPTIONS	• Cells can be extracted into:
	  ○ 96-well TC plates
	  ○ 96-well PCR plates
	  ○ 8-strip PCR tubes
	  ○ LC-MS vials

OTHER SYSTEM FEATURES	• Nanolitre fluid handling system • Extremely low pressure of <0.5 psi, minimising shear stress during cell handling • UV light and ethanol resistant • Rapid exchange of wetted parts • Intuitive GUI and touch interface guides users through the workflow (stylus included) • 2.4 GHz wireless functionality for automated transfer of data between isoPick and isoHub • USB port for easy software updates (requires Windows 10/11)
CONSUMABLES (within single-cell isolation kits)	• 18 colour-coded 60 mm dishes • Microcentrifuge tubes and 10 mL reservoirs • PLH buffer 100X solution for GRID formation • HF^{BIO} for GRID formation & overlay • Replacement dispensing assembly • Pipetting aid
OPERATING REQUIREMENTS	• Temperature: 16–35°C (60–95°F) • Humidity: 40% to 60% • Altitude: less than 2000 m • Power supply input: 90-260 V AC, 50-60 Hz, minimum 1 A at 115 V, 0.7 A at 230 V • isoPick power input: 24 V DC, 50 W
PHYSICAL CHARACTERISTICS	• Dimensions: 210 x 300 x 300 mm • Weight: 4.8 kg (5.4 kg with cooling block)

PRODUCT SCHEMATIC



Additional Technical Data Sheets (available on iotaSciences website)

- If using the isoPick alongside an isoHub instrument as part of the scPicking Platform, please see the isoHub Technical Data Sheet for additional technical specifications.