



Fluent™ Laboratory Automation Solution

Confidence comes from an instrument that is simply faster and more precise

Enhancing productivity from the inside out

Fluent has been designed and built to increase throughput and productivity, enabling laboratories to get more done in less time – and less space.

1 More functionality in less space

Fluent's patented **Dynamic Deck™** allows the high capacity worktable to be freely configured and easily reconfigured. The cabinet-mounted option lets you take full advantage of the system's in-deck and below-deck access, expanding capacity and functionality without extending the instrument's footprint.

2 Intuition built right in

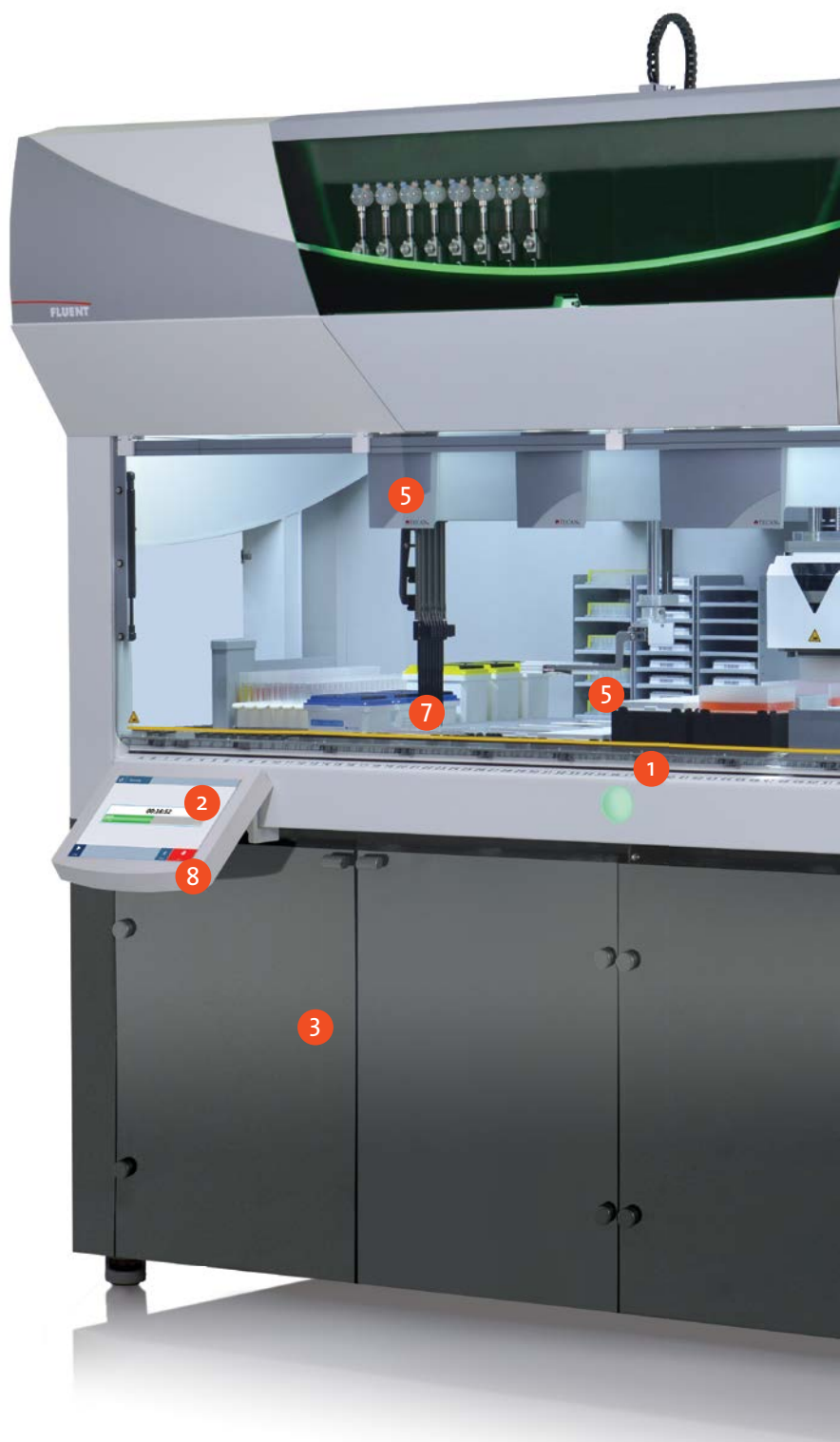
Every Fluent comes with a dedicated **touchscreen interface** that can be individually tailored to specific applications and personalized for each user. Requiring little or no training, the interface clearly defines every action for more straightforward, consistent operation.

3 Device integration for fully automated workflow

Enjoy true walkaway operation with Fluent's seamless integration of complementary peripherals, all fully managed with **FluentControl™** software for maximum throughput and minimum operator input.

4 Execute protocols more quickly, efficiently and reliably

Perform multiple tasks simultaneously with fast, independent, **task-specific arms** that work in parallel. Runs are completed faster and more efficiently with patented **Path Finder™** technology that automatically calculates the optimal moves for every arm everytime





5 Greater peace of mind

Ensure the integrity of your results with a broad array of fully integrated technologies and capabilities:

- 1D/2D barcode reading for efficient sample tracking
- Liquid level detection for reliable pipetting performance
- Plate move confirmations
- User interaction logs

6 Flexibility to deal with the unexpected

Fluent's **Active Stop and Resume** function enables the operator to instantly access the workdeck during a run – allowing set-up errors or omissions to be corrected – simply by opening the door. Once the actions is finished simply close the door and resume the program, which will pick up where it left off.

7 Save reagents and sample

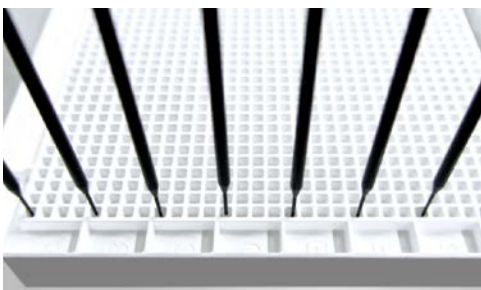
For optimal liquid handling performance, Fluent is equipped with **Adaptive Signal Technology™**, a new generation of liquid level sensing. This technology provides real-time aspiration monitoring and liquid arrival checks, enabling the use of smaller sample volumes and reducing dead volumes, as well as providing exceptional automated error handling.

8 System cloning without time consuming teaching

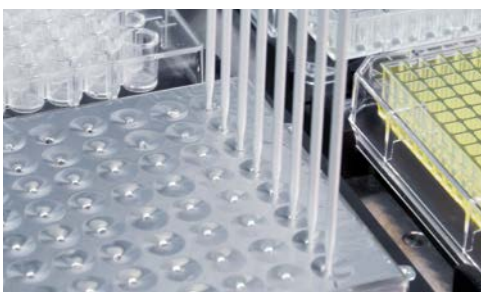
The Fluent's outstanding system precision and unique Zero G ability remove the hassle from teaching channel positions for 96-, 384- and 1,536-well microplate formats. Methods can be easily transferred between platforms simply exporting and importing scripts, without the need for time-consuming set-up of individual instruments.

Be more
productive
and feel more
confident
with every run

Fluent delivers unmatched positional accuracy and pipetting precision for enhanced process security and peace of mind for walkaway processing.



Flexible channel arm with Te-PS tips pipetting into 1536 microplate



Piercing with fixed washable tips and liquid displacement Flexible Channel Arm

From nanoliter to milliliter volumes

Ideal for the preparation and distribution of samples and controls, the **Flexible Channel Arm (FCA)** features interdependent pipetting channels that can access any tube or well configuration, with automatic adjustment of tip spacing between labware formats.

Best of both worlds – only Tecan offers the choice between liquid and air displacement technologies

By offering a choice of air and liquid displacement pipetting technologies, the FCA provides unrivalled flexibility to suit the needs of your laboratory workflow and increase productivity.

Liquid displacement offers a choice of washable fixed tips or disposable tips, with a large dynamic range and the option to use alternative system liquids, such as DMSO for priming and bulk dispensing in compound management workflows.

Air displacement eliminates the need for system liquids and associated maintenance operations. Ideal for genomics applications, this option uses in-line filters for optimal channel protection and process security.

Switch between 96- and 384-channel heads in seconds

The **Multiple Channel Arm (MCA)** brings higher productivity to automated liquid handling processes. Offering exceptional flexibility for walkaway processing, the MCA can automatically switch between 96- and 384-channel formats, or washable fixed tips and disposable tips, in seconds during a run.

The MCA can pipette virtually any combination of individual rows and/or columns – as well as custom arrangements such as quadrants – simplifying plate replication, sample reformatting and dilution series generation. A broad dynamic range, combined with a low volume head option, ensures optimal performance for 96, 384- and 1,536-well formats, including deep-well plates.

Versatile plate and tube handling

The **Robotic Gripper Arm (RGA)** rapidly moves plates and tubes between logistical and processing devices without interrupting the pipetting process. Essential for long unattended runs, it smoothly and quickly delivers labware to pipetting arms and integrated devices, and enables the simple set-up of external devices using Zero-G one-touch teaching.

Enhance process security and audit trails

The RGA can also be fitted with a barcode reader, which can be mounted either forward-facing – allowing plates to be scanned during transfer – or rear-facing to allow rapid inventory scans of hotels or stacks on the workdeck.



Multiple Channel Arm 384 picking up disposable tip adapter



Multiple Channel Arm 384 picking up one column of 50µl tips



Tube handling with Robotic Gripper Arm



Robotic Gripper Arm with eccentric grippers loading a 2-D bar code reader

Adding simplicity to every interaction

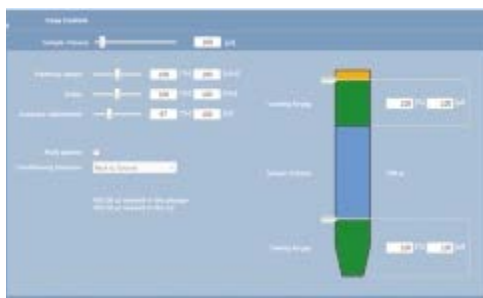
FluentControl giving you a powerful set of tools to quickly and easily set up and run even the most challenging assays.



Operation at a touch of your finger



Add your own pictures or movies to support the operator preparing a run



Liquid class editor



Elegant labware definition enables accurate calculation of detected liquid volumes

A perfect fit for operators and programmers

FluentControl software was developed to meet the needs of both day-to-day operators and system programmers without compromise. Assay development and configuration is quick and easy using a dedicated programming environment, while the built-in touchscreen interface guides users through daily tasks for fast, consistent and efficient operation.

Consistent, reproducible operation

Fluent's touchscreen and unique operator interface simplify daily activities by guiding scientists through routine set-up and operation of the system for consistent, reproducible operation. It can provide graphical instructions and prompts for every step of the set-up process.

- Visual guides for complex tasks
- Faster start-up for new operators
- Easier compliance with SOPs
- Status and runtime progress indicators
- User-specific assay permissions

Scripting has never been faster and easier

Configuring assays in FluentControl is straightforward, with drag and drop command editors and an intuitive 3D worktable. It automatically checks for errors while editing to ensure rapid, easy scripting. Highlights include:

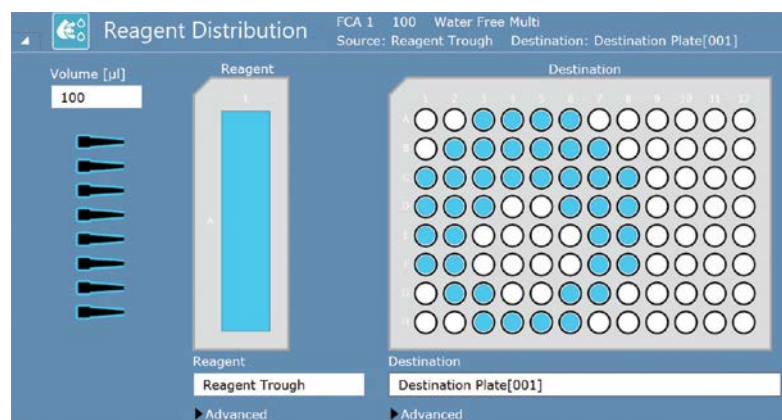
- **Liquid class editor** – use predefined parameters for a wide range of liquids, or quickly define custom liquid classes to suit individual applications.
- **Advanced undo/redo features** – undo or redo changes, even after saving or rebooting.
- **3D simulations** – test and visualize new scripts without a real instrument, improving laboratory productivity.
- **Method approval** – prevent unauthorized changes to validated protocols



Smart Commands

These simple, one line programming tools take care of common activities, making it faster and easier to generate basic protocols. Functions include:

- Fill a plate, or series of plates, with a reagent from a tube or trough
- Transfer samples and aliquot replicates from tubes to plates
- Dilute samples based on imported files, run information (eg. concentrations calculated during the run), or predefined factors
- Create simple standard curves



Smart Commands – Spend less time setting up common pipetting tasks

Create wizard – like interfaces

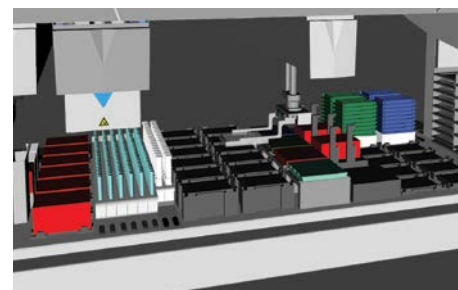
The Application Toolkit provides a collection of commands allowing programmers to create 'wizards-like' interfaces to further simplify everyday operation of the system. This powerful protocol development toolkit also includes special commands for embedding rich user prompts.

Rapid script development for quantification and normalization workflows

Rapidly develop scripts for common tasks, such as quantification and normalization workflows. By embedding these functions into FluentControl as standard commands, application specialists can save several hours of programming per script.

Control Fluent from another application

For those looking to 'automate their automation', the Application Programming Interface allows external programs to start and stop FluentControl protocols, query the status of runs, and upload variables.



3D simulations

Do more in less time and less space

Fluent is designed to simplify your daily tasks by bringing together all the modules and devices required for complete workflow automation.



Fluent 780 with carousel (right side) and stacker (left side) for maximized walkaway time



Below deck integration of a centrifuge



Side Integration of Tecan Spark 10M multimode reader

Device integration for fully automated workflows

The Fluent's Dynamic Deck ensures an exceptional capacity with a compact footprint. This allows integration of peripheral devices on, around or below the workdeck without compromising on instrument throughput – making it easier to get more done, more quickly.

Stacker

A high capacity stacker can be mounted adjacent to the Fluent, allowing rapid transfer of microplates or tip racks to the worktable. Each stacker can accommodate up to four stacks of 50 microplates or 40 tip racks, extending walkaway times by ensuring availability of consumables.

Carousel

This option provides random access storage for SLAS-format microplates, labware or disposable tips (maximum 210 standard microplates), which can be easily accessed by the Robotic Gripper Arm. A built-in barcode reader ensures complete process security and makes this an ideal solution for sample, compound library or growth medium storage, allowing hands-free generation of assay plates.

Readers and washers

Tecan offers a range of multimode readers – including the Infinite® and Spark™ series – designed specifically with complete automation in mind. From rapid absorbance measurements for DNA quantification to advanced cell-based and biochemical assays, there is a Tecan reader to suit almost any assay requirements.



HEPA Hood

An integrated HEPA hood maintains a clean environment throughout the workdeck, ensuring environmental protection for cell biology applications.

Fluent 480 with integrated Hepa hood

Incubators

A range of on-deck and peripheral incubator options are available, from the compact Monitored Incubator Option (MIO™) for up to six microplates, to large robotic units for up to several hundred cell plates.

Magnetic separation

Fluent supports **magnetic bead-based separation** workflows. Offering fully-automated separation in multi-well formats, this option is ideally suited to nucleic acid extraction and genomic sample clean-up activities.

Third-party devices

FluentControl offers straightforward integration of third-party devices, with an ever-increasing library of drivers – including support of SiLA devices – and Zero-G one-touch teaching to simplify set-up.

Enhanced productivity with Tecan consumables

Tecan offers a broad portfolio of high quality consumables – from disposable tips to troughs – in Tecan Standard, Tecan Pure and Tecan Sterile purity levels. Every product undergoes stringent testing to ensure reliable automation. Nested disposable tips are also available for both the Multiple Channel Arm and Flexible Channel Arm to further increase efficiency, productivity and walkaway times.



Exchange deck segments for flexible assay setup, device integration and reconfiguration



Maximize your deck capacity with the Tecan nested tips and unique transfer tool for the tip racks

Confidence you can count on

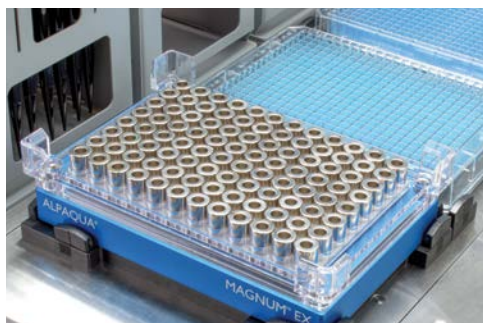
Tecan has re-invented laboratory automation with the Fluent automation solution, a unique concept built around the application-specific needs of laboratories.



Pipetting directly into Thermocycler



Incubation and environment control for automated high throughput cell based assay workflows



Magnetic plates offering automated bead-based separation in multi-well formats, this option is ideally suited to nucleic acid extraction and genomic sample clean-up activities

Your applications are our inspiration

Fluent was designed to meet the needs of various life science workflows, such as high throughput genomics, by combining high precision liquid handling – down to 200 nl – with straightforward set-up of normalization, sample transfer and reagent distribution using Smart Commands. Its freely configurable architecture allows rapid integration of devices for DNA quantification and processing, and offers exceptional storage capacity for plates and tips.

Taking the complexity out of cell biology

The Fluent laboratory automation solution for cell-based assays offers walkaway processing for cell biology workflows. By seamlessly integrating all the complementary devices required for cell-based research – including incubators, washers and readers – into a single platform, Fluent offers researchers the freedom and flexibility to focus on other tasks around the lab as the instrument runs unattended.

Speed up efficiency in drug discovery processes

Compound management is a key activity in the drug discovery process, and the Fluent laboratory automation solution for compound management has been developed specifically to meet the needs of this sector. It provides more capacity and increased speed – ensuring superior throughput and walkaway times – and uniquely offers both liquid and air displacement pipetting to ensure optimal process security and while still allowing rapid bulk dispensing of DMSO.



Optimal capacity. Optimal throughput. Optimal results.

Fluent
480



30 plate positions

Fluent
780



48 plate positions

Fluent
1080



72 plate positions



Discover the Fluent Laboratory Automation Solution

To see Fluent in action and learn how it speaks the language of your laboratory, contact your nearest Tecan office or visit www.tecan.com/fluent

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