

HITEC ZANG



Made-to-measure robots!

SciBot™ - Multi-functional laboratory robot systems



What is a SciBot™?

Robots from the SciBot™ family are cartesian robotic systems which are mainly produced for special applications where there are no "off-the-shelf" solutions.

Thus, for example the SciBot™ is used for the formulation and quality assurance of mixtures.

Due to their modular construction, further fields of application have very quickly resulted in the areas of chemistry, microbiology and cell culture technology. Thus, various tasks can be carried out using only one system when it is fitted with various additional measuring equipment and a tool changer. But a SciBot™ can also be used for specialised tasks, such as the measurement of pH or conductivity in microtiter plates or as a 3D printer for gels with living cells.

Integration into laboratory and production processes is possible.

Areas of use

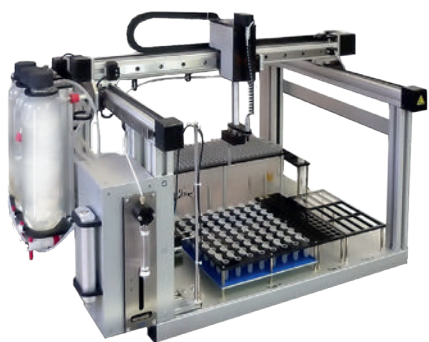
- » Formulation and filling of mixtures
- » Sample preparation and liquid handling
- » High throughput synthesis
- » High throughput measurement
- » Process design of biological and chemical processes
- » Micro-litre scale process optimisation
- » Small volume production
- » Cell culture technology
- » 3D printer for the printing of gel structures including living cells

A huge range of applications

SciBot™ systems are made to measure and suited for nearly any application. The tool changer enables the extensive parallel processing of most working steps such as pipetting, pH regulation, stirring, dispersing or dosing of liquids, melts and solid matter.

A coupling with online analysis systems and the connection of external pumps, valves etc. is possible thanks to seamless integration into the LabVision® automation environment.

High throughput synthesis



Our synthesis robots offer a similar range of functions such as for the automation of complete synthesis chains, including the fully automatic preparation of slides for microscopic analysis.

Reaction methods are prepared and carried out for this in 64-fold parallel. In this process the SciBot™

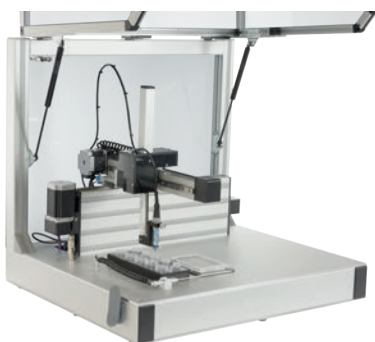
takes over the pipetting, stirring, dispersing, pH regulation and the final coating of slides.

High throughput measurement

Depending on the application, SciBot™ processes can be upscaled and even integrated into larger systems as a partial process.

To meet the requirements of specialised high throughput measurement we also offer measurement robots which are specialised in measuring the pH value or the conductivity in microtiter plates (MTP) using electro-chemical measuring electrodes.

The measurement process takes place automatically and includes calibration, quality control and documentation of the measurements and parameters. Use in a GLP environment is therefore possible.



Formulation and filling system



Liquids, solids and melts can be filled into vessels with the formulation and filling system featuring freely programmable mixing ratios.

1-to-n and N-to-n processes are possible, e.g. any mixing ratios from 100 sample vessels to 200 target vessels.

The volume of the sample and the target vessels depends on the application.

Cell culture

The size of a SciBot™ is determined by the application. Due to their compact form the systems can be used in small laboratory incubators, such as for cell culture technology.

We offer cell culture systems with a significantly larger range of functions for use within a sterile work bench.

Using various handling tools and various media with both medium cooling and medium supply, different possibilities are provided for the parallel treatment of 6-, 24-, 96-well MTP formats.



The handling of various pipette tips (250 µl, 1.000 µl, 5.000 µl) and a MTP tilting device or vessel covers is achieved through various tools with the aid of a tool changer.

The refilling of the media feed tanks is regulated by a fill level monitoring system.

3D printer for living cells

New in the SciBot™ family is a 3D printer for the area of reconstructive medicine. With the SciBot™ RoboGel structures can be printed from gel already containing the living cells.

For this purpose the structure is constructed drop-by-drop and layer-by-layer and can then mature in an incubator. The easily interchangeable print heads can be cleaned during the printing procedure.

The SciBot™ RoboGel is designed so that it can be operated on a conventional sterile work bench.



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