CHRONECT® by TRAJAN

INSTRUCTIONS FOR USE

CHRONECT™ XPR

Dispensing and weighing in the automated workflow

A large number of substances are used in synthesis optimization. These substances are weighed in the lower milligram range and passed on to the further test procedure. They are usually toxic or decompose in the ambient air, so that an enclosure under a inert gas atmosphere such as argon or helium is necessary. Manual weighing is complex and time-consuming. The CHRONECT™ XPR takes over the weighing process for up to 32 powders in up to 288 vessels – even under the laboratory fume hood.

Mode of operation

Up to 32 solids can be positioned on one shelf. These are stored in dispensing heads. All information about the solids is stored on an RFID chip and read out via the shelf. SBS plates offer space for different vessel sizes in which the powders are weighed in. Weighing is done with the help of the XPR system from Mettler-Toledo. A six-axis robot transports the powder heads into the scale and places the vessels under the dosing head.

The software CHRONOS™ controls the system through a simple interface. The SBS plates are displayed pictorially in the program. The user can now select the solid material via a drop-down menu. Only those powders are shown that are currently on the shelf. He/she then inserts the quantity that is to be dispensed into the graphic of the plates. Simple functions, as known from Excel, facilitate the input into the rows and columns. Every weighing is documented.

Options and possible add-ons

CHRONECT™ XPR is equipped with 3 SBS plates with 96 places each for 1 mL vials. To expand the capacity of the target vessels, three additional SBS plates and vials for 2, 4, 8, 10, 20 or 40 mL are available.

The XYZ robot CHRONECT robot offers further automation options. For substances that need to be stored in a closed vessel, the DeCapper Module enables to screw the caps on and off automatically. Furthermore, CHRONECT robot offers additional space for sample vessels with tray holders. Modules for shaking, heating, filtration and solvent addition are also controlled automatically via CHRONOS™.

Advantages of CHRONECT™ XPR

- Integration of precise dispensing and weighing technology from Mettler-Toledo into the automated sample preparation process
- No manual handling of toxic substance
- Automatic operation under inert gas atmosphere possible
- Connection of the emergency stop functions of the robot with safety options of the housing possible
- Data security with RFID chips
- Complete documentation of each work step and the weighing process
- Connection to Electronic Lab Notebooks (ELN) possible
- Different vessels can be used in one run
- Add-ons available, e.g. for heating, shaking, filtering, etc.

Mode of operation

In 2018, CHRONECT™ Quantos was awarded the Application Award by Laborpraxis (a German Laboratory Magazine). Until then, it was regarded as difficult to combine precise dosing and weighing technology with automated sample preparation. With the integration of the six-axis robot into the CHRONOS™ software platform, Trajan succeeded in doing just that. Since then, the system has been developed further in line with practical requirements: The new name giver is the improved XPR system from Mettler-Toledo.

Figure 1. Precise and traceable solid dispensing with XPR from Mettler-Toledo.

Figure 2. Various vessel sizes usable.

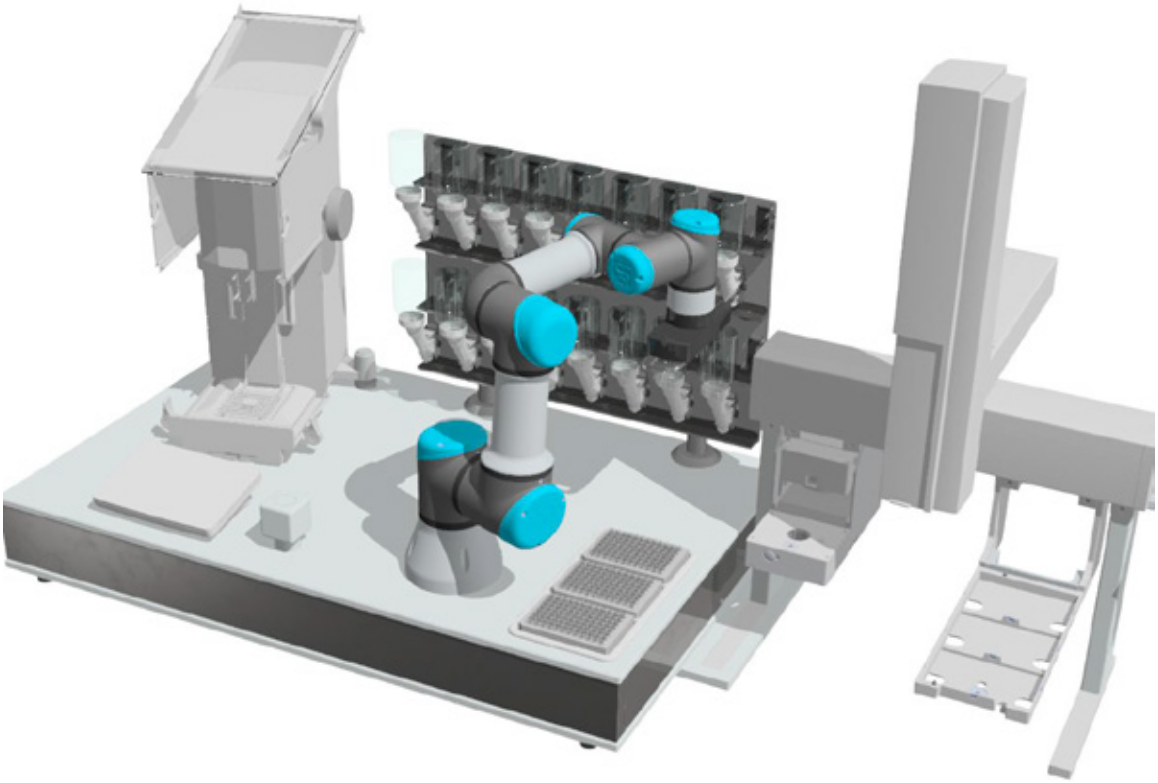

Figure 3: Schematic setup CHRONECT™ XPR and CHRONECT™ robot with DeCapper module and tray holders.

CHRONECT™ XPR was developed in cooperation with Mettler-Toledo and Juke. The workstation was originally CHRONECT Quantos as a funded project of the Central Innovation Program for SMEs.

Information and support

Visit www.trajanscimed.com or
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Specifications are subject to change without notice.