HCTS2000 MK2

Fast sample detection and sorting

The ideal solution for bulk-to-bulk sorting

- A suitable concept for any type of sample accessioning
- Automatic detection of sample accession
- Simple set-up, with technology that is easy to maintain
- Simple operation – flexible sorting logic
- Suitable for all standard types of tube currently available

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Optimisation of sample accessioning process

The MK2 in pre-analytics

- Each sample's accession is detected automatically; there is no need for manual scanning
- Samples are sorted into groups and can be further processed right away
- Error samples (no barcode or barcode cannot be read etc.) are picked out
- Process reliability is improved and the lead time (TAT) is shortened
- Greater ease of use improves level of acceptance by laboratory staff
- Options to extend the range of functions ensure an all-round, complete concept

Functional principle

The HCTS2000 MK2 (High Speed Closed Tube Sorter) solution is ideal for use in the sample accessioning area of medical laboratories.
It structures and optimises workflows. The device sorts all standard tube formats in bulk (see Technical Data) and groups them to enable fast further processing. It detects the accession of each sample automatically.

Process optimisation

Use of the HCTS2000 MK2 when preparing samples guarantees that no mistakes will be made when assigning the accessioned sample tubes to the individual areas of analysis at the laboratory. Samples will no longer 'inadvertently' end up in the wrong departments and laborious searches for samples will no longer be necessary. In other words, error samples, e.g. without a barcode or with barcodes that cannot be read, simply do not undergo analysis.
The HCTS2000 MK2 can be used as a stand-alone solution with sorting rules created by the user or, if there is an LIS connection, perform sorting according to the tests required. The frequency of errors will be reduced in each case, improving process reliability.

Simple operation

Operation of the HCTS2000 MK2 is straightforward and intuitive, controlled via the touch pad, which is used to begin operation after the samples have been poured in. Sorting stops when one of the collection trays is full. These trays can be emptied at any time.

Standard device's range of functions

All currently available standard makes and sizes of sample tube (see Technical Data) are sorted at a throughput of up to 2000 tubes per hour. The sample tubes are detected and sorted using barcodes. On the standard design, the target compartments are locked with deadbolts during the sorting process. To remove the tubes that have collected in the target compartment, a container is held below the opening before the deadbolt is pushed up. The process will be easier if an external target container is attached in front of the target compartment. This will enable the deadbolt to stay open and the external target container to receive the sorted tubes immediately.

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Options/accessories

Add-on modules

Many laboratories need to be able to carry out primary distribution to more than seven targets. Each add-on module enables you to add a further five target compartments. Furthermore, up to three modules can be connected to the basic device, enabling you to increase the number of target compartments to 12, 17 or 22.

Easy handling

Connecting add-on modules does not affect the system's sorting speed in any way. On the basic device, the new target compartments can be copied immediately into the sorting logics, which can be edited freely by the operator. Connection to the LIS will open up further sorting options for the operator. The additional target compartments are operated in the same way as on the basic device; one option is to equip the add-on modules with removable target bins as well (see below).

Installation on the HCTS2000 MK2

The add-on module is installed to the side of the basic device. The process of transferring tubes from the basic device to the add-on module is fully synchronised using the basic device control. To be able to connect one or more add-on modules to the HCTS2000 MK2, simply install the relevant connection kit as a one-off step before your first use.

Tube type recognition via camera module

Using this option, it is possible to use the colour of the caps on the sample tubes as an additional sorting criterion. The system can distinguish between up to 20 different single-coloured caps. The geometry of the sample tubes is also detected. It is this combination which enables the system to determine the exact tube type. If the barcode also provides information about the preparation of the tubes, it will be possible for a plausibility check of the tube type and information to take place using this. In the event of any discrepancies, the tubes will end up in the faulty compartment.

Removable target bins

One option is to equip the device with removable target bins instead of target compartments locked with deadbolts. This will increase ease of use when operations are ongoing. Once collected, the tubes are highly visible in the removable target bin. Target bins containing probes that have been sorted can be removed at any time. Sensors guarantee that the machine stops when a target bin is being removed or is completely full. If the emptied target bin is re-inserted, the device will restart without the operator having to take any further action.

Options/accessories

Signal light

The device's signal light illuminates when one of the collection trays is full or the device experiences a breakdown. This means that you can see when action is required, even from a distance, and you avoid losing time. The display shows detailed notifications.

Barcode scanner

The device is fitted with a 1-D Scanner as standard, but it is also possible to install a 1-D Barcode Scanner High Density or a 2-D Scanner when there are particularly tough requirements to meet with in regards to the amount of data transmitted via barcode.

Technical data

HCTS2000 MK2

Sorting	
Speed	Up to 2000 tubes per hour
Sorting criterium	Linear barcodes consisting of up to 30 digits: Query with the LIS, up to 25 requirements profiles 2D barcode (optional) Cap colour (optional) Ten sorting logics, freely editable and storable
Sample handling	
Tube specification	All currently available tubes 75 mm – 120 mm in length (with cap) 11 mm – 19 mm in diameter (with cap)
Tube inlet	Funnel-shaped container with capacitiy larger approx. 600 tubes (depending on tube size)
Tube outlet	Seven target compartments, each with capacity for around 200 tubes
General	
Operation	Built-in processor with touchscreen PC software panel for editing the sorting logics
Mains connection	110 – 230 V, 50 – 60 Hz
Interfaces	LIS connection, purely ASCII-based protocol Standard RS 232C interface with 9600 baud Ethernet interface, RJ45 (optional)
Dimensions	1520 mm x 1210 mm x 830 mm (W x H x D)
Weight	160 kg

HCTS2000 add-on module

Speed	1500 – 2000 tubes per hour, depending on the basic device
Tube specification	All currently available tubes 75 mm – 120 mm in length (with cap) 11 mm – 19 mm in diameter (with cap)
Target compartments	Five target compartments, each with capacity for around 200 tubes
Cascading	Maximum of three modules per basic device
Control unit	HCTS2000 basic device
Mains connection	Power supply 110 – 230 V, 50 – 60 Hz
Dimensions	865 mm x 1060 mm x 820 mm (W x H x D)
Weight	35 kg

Additional information and video

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