

CyBi[®]-8plus1

Nine Wins



General Features

Over the last few years, the biological and chemical applications in the field of research have changed considerably. For example, if you only considered chemical assays a few years ago, you will now find that more and more biological and molecular biological assays have come into operation. The research appendage has changed, as have the requirements for automation. In regard to the automation of applications, not only high throughput does apply but it is also perfectly applicable with medium

throughput. Consequently, processing the amount of microplates in a very fast manner is no longer the fundamental aim. Nowadays, the fundamental aim lies in the reproducibility of the results.

CyBio as the first provider of lab automation at the pharmaceutical industry knows what highest precision and reproducibility as well as robustness and long-life cycle means. CyBio can proudly look back on 20 years of experience in liquid handling and the ability to adapt this to the conditions of the research. This has enabled CyBio to transfer our vast expertise into the world of Life Science applications through the new CyBi®-8plus1.

The CyBi®-8plus1 provides in addition to the 8 channels for serial dilution application a single channel which can achieve and execute all wells of a microplate and single tubes. This ensures that a wide variety of applications such as reaction set-up, Hit picking, serial dilution and many other applications can now be automated easily. The 8-channel and the single channel are available anytime and this means that no longer you will have to deal with the annoying exchange of pipetting tools.

Like all other products designed by CyBio, the CyBi®-8plus1 can also be equipped with many different work positions. This means that CyBio can ensure the perfect configuration for the automation of your assay or application.



Nine Wins

Win Walk away time

- ... time with a unique combination of 8- and 1-channel where pipetting head exchange becomes needless.
- ... time due to the included microplate database which makes time-consuming teaching unnecessary.
- ... more walk away time due to the possibility of device upgrades for future demands.

Win Lab space

- ... lab space due to more additional working positions for reservoirs, tips and plates without increasing of the system footprint.

Win Reliable results

- ... process safety and always reliable results due to high pipetting precision and precise positioning.
- ... reliable results due to safe and contamination free working as tip picking up and tip dropping is separately organized.
- ... reliable results due to our professional technical and application support.

Win Profitability

- ... assistance for you lab budget due to an unbeatable cost-performance-ratio.
- ... profitability due to the use of 3 different tip types on one head.

Introducing an outstanding new and convenient arrangement of pipetting channels

An increasing number of applications are making use of tubes and the control of single wells an essential part of their practice. For example, the preparation of a polymerase chain reaction (PCR) requires single tubes to prepare the master mix. With the new CyBi®-8plus1,

you will be able to handle tubes with a total volume of 0.2 mL up to 2 mL, columns, rows and whole microplates with 96 up to 384 wells. This means that you can now automate many simple applications as well as complex applications.



The unique combination of 8 fixed channels and 1 versatile channel on one pipetting head



ensures the fast processing of columns with the 8 channels and flexible execution of tubes and single wells with one pipetting tool. This highly intelligent arrangement means that exchanging pipetting tools during the process is no longer required and the result is a continuous processing and a saving in time.

Furthermore, the CyBi®-8plus1 provides you with the possibility of using 3 different tip types on all channels. Therefore, you can choose between 5 μ L, 50 μ L and 250 μ L tips and it will deliver the optimum performance with the highest precision and reliability for your specific applications. This in turn allows working with a wide volume range (0.5 – 250 μ L) with one pipetting head and one device, meaning that you will avoid time-consuming head exchange.



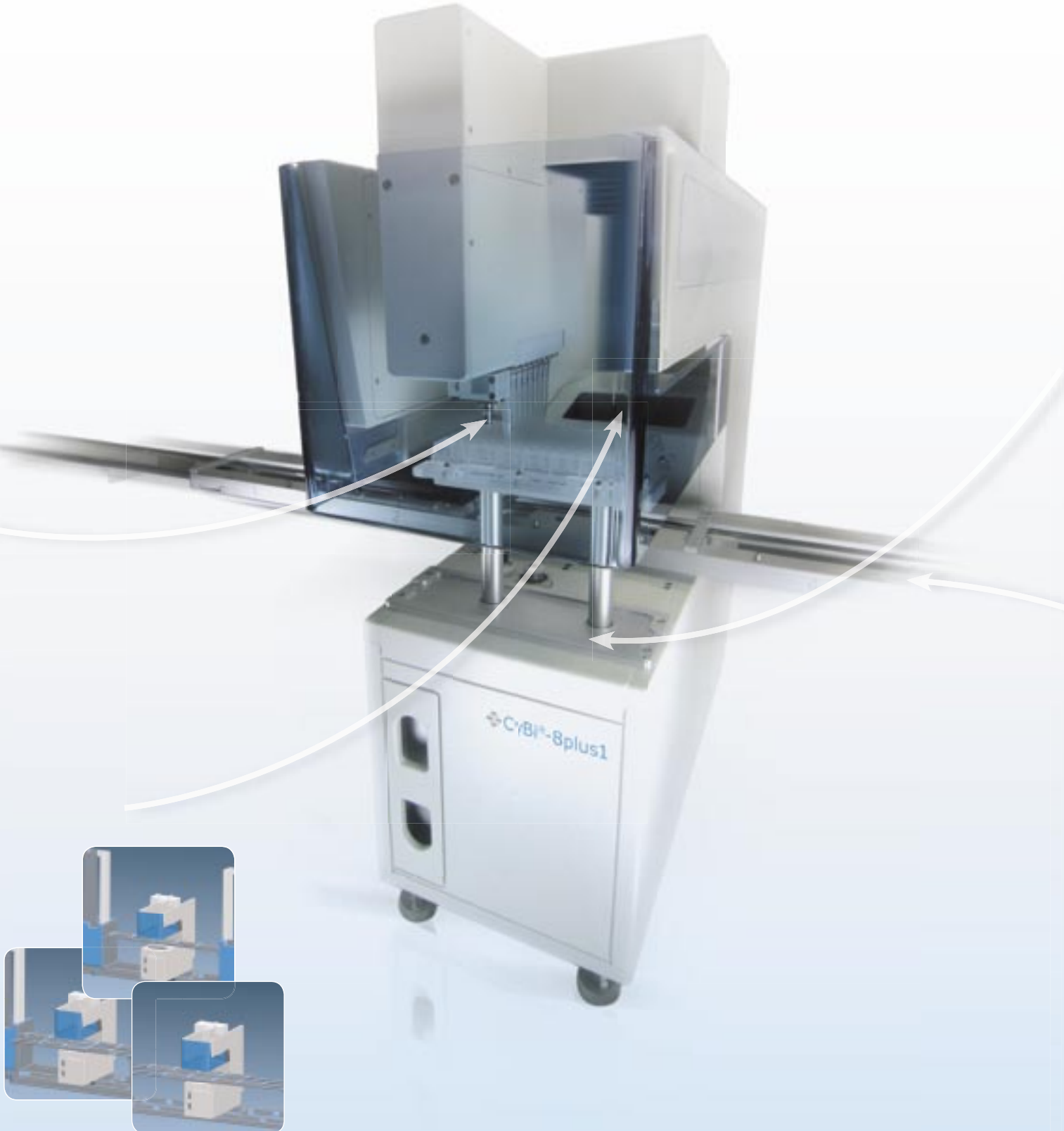
No cross-contamination

A multitude of applications require the separated storage of used tips from clean tips. The CyBi®-8plus1 provides different possibilities to handle the tips. For sterile and sensitive applications, the CyBi®-8plus1 features a special tip dropping station with a waste container where there is sufficient space for tips which you need for the processing of many microplates.

For the execution of microplates with the same liquids, the tips can be placed back in the tip rack and used again at a later point – a concept that saves tips and therefore saves money.

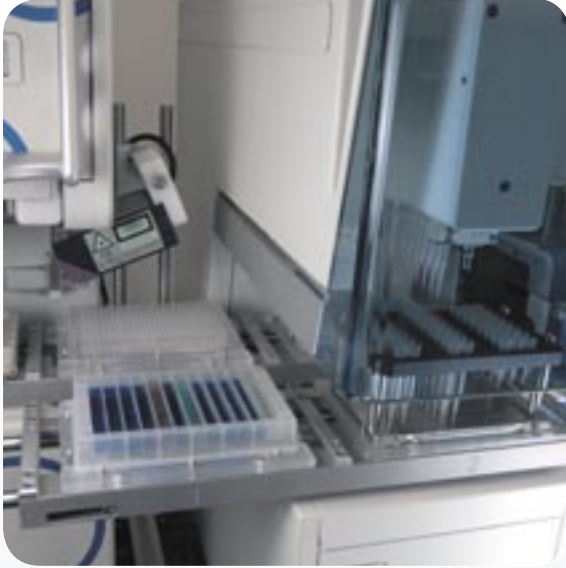
Furthermore, the CyBi®-8plus1 delivers a highly impressive active tip wash station for a perfect wash performance of the tips.

Discover the Highlights of the New CyBi®-8plus1.



Expandable work position

Different applications require different numbers of working positions and working configurations. The CyBi®-8plus1 can be configured with three different work spaces. Therefore, you can choose between a 4-position and 5-position linear carriage as well as a 10-position



circular carriage plus an additional position detached from the transport system. This means that depending on work space and requirements of the application, you have the ability to arrange your perfect CyBi®-8plus1.

For higher throughput, the CyBi®-8plus1 can expand within 2 additional positions on a second carriage without increasing the system footprint. Applications with a lot of positions for microplates, reservoirs and tips can be executed without limitations. This 3 position rail can also be configured from the outset. This second rail allows the parallel processing of further steps, for example tip changing and microplate stacking.



Increased throughput

In preparation for future demands, the modular concept of the CyBi®-8plus1 is designed to be easily upgraded with such other CyBio devices as the CyBi®-Drop, the additional 3 position rail, stacker and other accessories. This ensures an increase of the throughput and the execution of complex assays without the need to schedule this when the purchase is made.

Technical Data

Channels	8 fixed pipetting channels and 1 flexible channel
Volume Range	0.5 µL – 250 µL
Disposable Tip Size	5 µL, 50 µL, 250 µL
Precision Specification	CyBi®-8plus1-Tips 250 µL: 10-250 µL ≤ 2% CyBi®-8plus1-Tips 50 µL: 5-50 µL ≤ 2% CyBi®-8plus1-Tips 5 µL: 0.5-5 µL ≤ 5%
Plate Formats	Shallow-Well and Deep-Well plates: 96, 384 tubes: 0.2, 0.5, 1.5, 2 mL
Plate Positions	4*, 5*, 10* + 2 additional positions <i>*plus 1 detached position</i>
Dimensions w/ h/ d (mm)	Linear 4+1 position: 1,350/ 620/ 545 Linear 5+1 position: 1,650/ 650/ 545 Circular 10+1 position: 700/ 620/ 950
Weight	Approx. 35 kg
Operating Conditions	15 °C to 35 °C; humidity < 85 % at 30 °C

One Application Example

Automated PCR set-up

Benefits

The CyBi®-8plus1 is because of its capability for reliable low volume handling and for flexible tip changing during a method. The advantages of automating PCR set-up include optimized and reproducible pipetting performance without contamination, and eliminating differences in laboratory staff manual pipetting performance.

In order to demonstrate PCR set-up with the CyBi®-8plus1, the amplification of a NADH-dehydrogenase gene fragment from genomic wheat DNA (*Triticum aestivum*) was chosen. First, the CyBi®-8plus1 was used for the preparation of the master mix starting from single components. Therefore the individual PCR reagents were automatically pipetted into a column reservoir. Tips were changed automatically between each transfer. Then the master mix was distributed without tip changing. Finally, the DNA was added to all samples, except for the negative control, with tip changing. For the evidence of contamination-free pipetting the DNA was transferred into each second well of the PCR microplate with changing tips after each transfer.

The results indicate the suitability for automated (Fig.1) and contamination-free (Fig.2) PCR set-up with the CyBi®-8plus1.

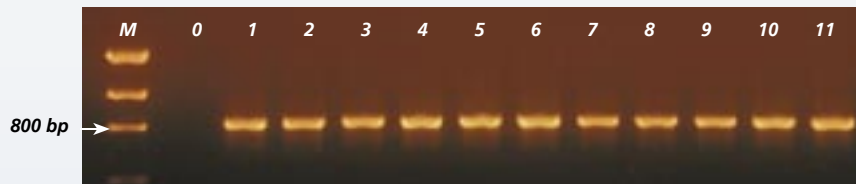


Figure 1:
PCR amplification of a NADH-dehydrogenase gene fragment from genomic wheat DNA. Low DNA Mass Ladder (M), PCR product without DNA (0) and with DNA (1-11) were separated electrophoretically on an agarose gel.



Figure 2:
Evidence of cross-contamination-free pipetting. A NADH-dehydrogenase gene fragment from genomic wheat DNA was amplified via PCR. Low DNA Mass Ladder (M), PCR product without DNA (0) and with DNA (1) were separated on an agarose gel by electrophoresis.

Make the Right Choice and Find Your Configuration

Application	Configuration possibilities	Benefit
<p>Low throughput application:</p> <ul style="list-style-type: none"> » Reaction set-up: PCR set-up, qPCR set-up, sequencing set-up » Serial dilution, EC₅₀, IC₅₀ » Reagent transfer from different reservoirs (tubes, column reservoirs, ...) » Tube to plate transfer 	CyBi®-8plus1	<ul style="list-style-type: none"> » Saves time with the combination of 1- and 8-channels on one pipetting head without exchange of the head » Allows the processing of whole microplates, columns and single wells as well as tubes » No teaching due to the included microplate database
<ul style="list-style-type: none"> » Reaction set-up: PCR set-up, qPCR set-up, sequencing set-up » Serial dilution, EC₅₀, IC₅₀ 	CyBi®-8plus1 + additional carriage	<ul style="list-style-type: none"> » More space for tips, reservoirs and plates without increasing the system footprint » Allows the automation of more complex applications
<ul style="list-style-type: none"> » Medium throughput Hitpicking » Low throughput plate replication » Serial dilution, EC₅₀, IC₅₀ » Low throughput plate reformatting 	CyBi®-8plus1 with stacker	<ul style="list-style-type: none"> » More walk away time » Easy increase of the throughput » Always reliable and precise results
<ul style="list-style-type: none"> » Cell-based assays » Serial dilution, EC₅₀, IC₅₀ 	CyBi®-8plus1 with CyBi®-Drop	<ul style="list-style-type: none"> » Useful and effective combination of 1- and 8-channel pipettor with a contact-free dispenser » Gentle dispensing of cell suspension without mechanical stress » Gentle dispensing of reagents on the top of adherent cell monolayers » Fast and flexible filling of microplates with different liquids

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