

Automated NGS Library Preparation

Complex workflows. Clear solutions.

Automated with precision.



Automated NGS Library Preparation

Configuration Overview

Preparing NGS libraries remains a complex task that demands a robust methodology to ensure the quality required for successful sequencing. Laboratory automation, especially optimized liquid handling, is the key to achieving not only high-quality NGS results but also enabling miniaturization. This leads to reduced costs, increased throughput, and enhanced reproducibility.

Analytik Jena offers a comprehensive range of solutions in laboratory automation – from partial automation of individual steps to fully automated library preparation workflows including integrated quality control. As your expert partner, we help lay the foundation for reliable, scalable, and efficient sequencing outcomes.

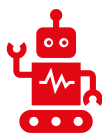
Level of Automation (LoA)



Economical (entry) LoA

What options do I have with a single CyBio FeliX configuration?

- Entry level automation
- Stand-alone systems for redundancy
- Separate pre- and post-processing steps



- CyBio FeliX Extraction
- CyBio FeliX Normalization
- CyBio FeliX Library Prep
- CyBio FeliX Dilution & Pooling



Intermediate LoA

A combination of two CyBio FeliX and add-ons give me a higher grade of automation.

- More walkaway time and less manual interaction
- Easy combination of tasks



- Dual CyBio FeliX: Extraction & Normalization
- Dual CyBio FeliX: Library Preparation, Dilution & Pooling



Advanced LoA

With a fully automated system & integrated CyBio FeliX I can run the entire workflow.

- True walkaway system without manual interaction
- Higher level of task combinations and increased throughput



- Pre- and post-PCR approach
- Configuration 1: Advanced Extraction & Normalization
- Configuration 2: Advanced Library Preparation, Dilution & Pooling

Level of walkaway time

Level of manual interaction

Key Benefits



- **Tailored automation levels:** From single-task modules to fully automated workflows
- **Compact design:** Maximum performance with minimal footprint
- **Reliable precision:** Robust pipetting with high accuracy
- **Operational robustness:** Designed for consistent performance, even under demanding lab conditions
- **Unattended runs:** Enables continuous workflows with minimal supervision
- **Field upgradeable:** Easily expandable to meet future requirements
- **Versatile application:** Suitable for a wide range of laboratory tasks beyond NGS

Scalable Solutions – Designed to Grow with You

Whether you would like to get in by automating individual steps or by implementing fully automated workflows, Analytik Jena will make sure you get off to the right start. With upgrade options always available, your investment will remain future-proof. This avoids redundant purchases as your requirements evolve. And because we understand that every lab is unique, our systems can be customized and adapted to meet your specific demands. To us, automation is more than just a product – it's a partnership.



Pre-configured Systems in Detail

This overview presents a range of scalable automation solutions for NGS sample preparation. Each configuration is designed to meet different throughput requirements and integration levels, helping you identify the best fit for your laboratory needs.

	Economical LoA Single, stand-alone CyBio FeliX deck configurations for dedicated tasks within the NGS Library Prep workflow				Intermediate LoA Extended single stand-alone CyBio FeliX or higher grade of autonomy and walkaway time		Advanced LoA Fully automated NGS library preparation tailored to your individual needs and chemistry	
	CyBio FeliX Extraction & Clean-up	CyBio FeliX Normalization	CyBio FeliX Library Prep	CyBio FeliX Dilution & Pooling	Dual CyBio FeliX Extraction & Normalization	Dual CyBio FeliX Library Prep, Dilution & Pooling	Advanced Extraction & Normalization	Advanced Library Prep, Dilution & Pooling
Steps to prepare NGS libraries								
Extraction	X				X		X	(X)
Normalization		X			X		X	(X)
Fragmentation			X			X		X
cDNA Synthesis			X			X		X
End Repair			X			X		X
Adapter Ligation			X			X		X
Indexing			X			X		X
Amplification			X			X		X
Clean-Up	X				X		X	(X)
Size Selection	X				X		X	(X)
Dilution & Pooling				X		X		(X)
Functional modules / Scope of delivery								
Magnetic Adapter	On-deck	-	On-deck	-	On-deck	On-deck	On-deck	On-deck
Heating / Shaking	On-deck	-	Optional	-	On-deck	Optional	On-deck	Optional
Liquid Handling	CyBio FeliX R-Head 96/1000 µl	CyBio FeliX SELECT Head 50 µl	CyBio FeliX CHOICE Head 1 and 8 channel liquid handling adapter	CyBio FeliX CHOICE Head 1 and 8 channel liquid handling adapter	2x CyBio FeliX R-Head 96/1000 µl - SELECT Head 50 µl	2x CyBio FeliX CHOICE Head 1 and 8 channel liquid handling adapter	2x CyBio FeliX R-Head 96/1000 µl - SELECT Head 50 µl	2x CyBio FeliX CHOICE Head 1 and 8 channel liquid handling adapter
Gripper	On-deck	-	On-deck	-	Robotic arm	Robotic arm	Robotic arm	Robotic arm

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	CyBio FeliX Extraction & Clean-up	CyBio FeliX Normalization	CyBio FeliX Library Prep	CyBio FeliX Dilution & Pooling	Dual CyBio FeliX Extraction & Normalization	Dual CyBio FeliX Library Prep, Dilution & Pooling	Advanced Extraction & Normalization	Advanced Library Prep, Dilution & Pooling
De-lidding	-	-	-	-	-	-	X	X
Storage	-	-	-	-	-	-	X	X
Cooling	Optional	Optional	Optional	Optional	Optional	Optional	X	X
Barcode Reading	-	-	-	-	-	-	X	X
Fluorescence Reader	-	Optional	-	Optional	Optional	Optional	X	X
Incubation & PCR Thermal Cycler	-	-	Optional	-	-	X	-	X
Robotic Arm Integration	-	-	-	-	X	X	X	X
Volume Range	1 µl up to 1000 µl	1 µl up to 50 µl	0.5 µl up to 1000 µl	0.5 µl up to 1000 µl	1 µl up to 1000 µl	0.5 µl up to 1000 µl	1 µl up to 1000 µl	0.5 µl up to 1000 µl
Throughput								
24 samples	X	X	X	X	X	X	(X)	(X)
48 samples	X	X	X	X	X	X	(X)	(X)
72 samples	X	X	X	X	X	X	(X)	(X)
96 samples	X	X	X	X	X	X	X	X
Multiple 96-well plates	-	-	-	-	-	-	X	X





Learn more about our solutions for your
lab automation and schedule a demo.

www.analytik-jena.com/labautomation



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Subjects to changes in design and scope of delivery as well as further technical development.

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