



NGS Compact

No more manual NGS library preparation with the switch to *epMotion*®

Optimize Your NGS Library Prep

The preparation of a high-quality NGS library is a cost-, labor-, and time-intensive process which requires experience and a lot of concentration. Precious samples are often processed for several days (depending on the kit used) until the library is ready for sequencing. A whole method consists of multiple parts, each with unique precision needs and hundreds of pipetting steps. When working with low sample numbers, 1–24 samples, NGS library prep is often done manually. But this can be prone to errors and variation

amongst libraries. As pipetting precision depends on the user, variability is introduced, which negatively affects the reproducibility. A solution for reliable preparation of highly reproducible NGS libraries is automating the process. Minimal user intervention utilizing optimal pipetting precision increases your time for other tasks, such as the evaluation of the sequencing data. Your overall productivity rises and the quality of your data is improved by reduced pipetting errors, consequently leading to more consistent results.



Fitted to your needs:

Small scale NGS library prep for up to 24 samples and limited lab space is possible with the epMotion® 5073t NGS solution by intelligent accessories and optimal space usage.

All dispensing tools on deck:

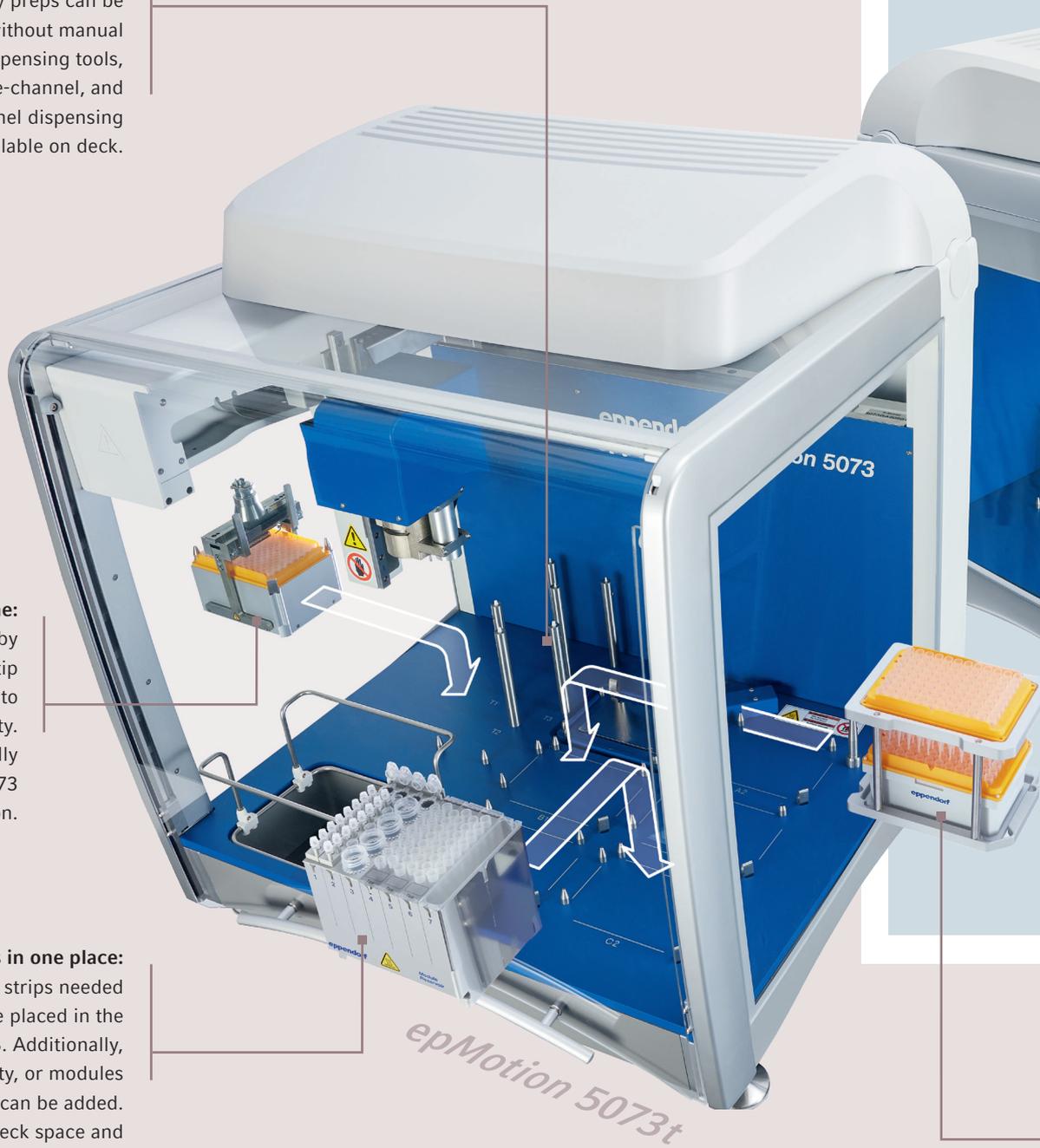
NGS library preps can be executed without manual exchange of dispensing tools, having single-channel, and eight-channel dispensing tools available on deck.

Two in one:

Increase walk-away time by placing the Gripper above a tip rack on the Gripper Tower to further increase tip capacity. This tip rack is automatically transferred to the TipHolder 73 without user intervention.

All reagents in one place:

All reagents, tubes and PCR strips needed for NGS library prep can be placed in the Reservoir Rack Module NGS. Additionally, reservoirs with larger capacity, or modules with up to 16 tips can be added. This saves precious deck space and enables more complex methods.





Key highlights of epMotion 5073t and 5075t NGS solution:

- > Sample throughput: epMotion 5073t NGS 1–24 samples per run; epMotion 5075t NGS 96 samples per run
- > Qualified next generation sequencing library prep methods for high quality libraries
- > Outstanding pipetting accuracy (0.31 % systematic error at 1 μ L) and precision (1.97 % random error at 1 μ L), provide reproducible results
- > Optional UV decontamination and HEPA air filter to protect precious samples and avoid cross-contamination
- > Intuitive software for ease-of-use and rapid method design
- > 3D run simulation to optimize speed and efficiency of new methods
- > Intelligent accessories maximize available deck space and walk-away time
- > Integrated Eppendorf ThermoMixer® and thermal module allow for efficient mixing of magnetic beads and reliable temperature incubations on deck
- > Touchscreen MultiCon PC with Windows 10
- > Powerful, spring-loaded plate magnet allow bead-based purification in plate format with minimal elution volumes
- > Optional: Miniaturization of sample volume down to 200 nL for reagent saving is possible with the high-precision 10 μ L dispensing tool
- > Integrated status light for visual feedback of system status like idle, run in progress or run finished (systems with serial number 7000 or higher)

Optimal space usage:

Improve tip availability during your application by stacking two times 96 tips in one TipHolder 73. This reduces user interventions and increases your walk-away time.

Excerpt of methods available for epMotion NGS solution:

Ampliseq® for Illumina®: Focus Panel
 Ampliseq for Illumina: Myeloid
 Illumina Nextera® XT DNA
 Illumina Nextera DNA Flex
 Illumina TruSeq® Stranded mRNA
 Illumina TruSeq Nano DNA
 Illumina 16s Metagenomic

> The complete list is available at:
www.eppendorf.com/epMotion-vip



Pain points and their solution during NGS library preparation

Issue	Potential reason	Solution
I do have very poor library yields or no libraries at all.	Inhomogeneous bead-solution to begin with and/or insufficient mixed bead-sample solution	<ul style="list-style-type: none"> > Ensure to properly mix the bead solution before adding to your samples. > Carefully mix bead solution and sample. Increase the number of mixing cycles and use around 80 % of the total volume for mixing. Solution mixing by tip mixing is preferred over shaking.
	Loss of sample during the bead washing procedure	<ul style="list-style-type: none"> > Use freshly prepared ethanol and use prewetting when pipetting ethanol. > Make sure to remove any residual ethanol during the final washing step. Use a smaller tip size for the final ethanol removal step. > Do not over-dry your beads. Always air-dry beads at room temperature do not use heat to accelerate the drying process.
	Loss of bead-sample solution	<ul style="list-style-type: none"> > Avoid the accidental aspiration of beads when removing supernatant. Use slow aspiration speed. Consider using a stronger magnet, if the problem persists. > Use slow speed and a blowout when dispensing beads. Apply tip dipping to remove droplets from the outside of the tip.
	Loss of sample during storage	<ul style="list-style-type: none"> > Avoid storage of intermediate products if possible. Do not extend the maximum storage times given in the kit protocol.
My final libraries do have the wrong size.	Insufficient enzymatic fragmentation or overfragmented samples	<ul style="list-style-type: none"> > Make sure to use the correct temperature during enzymatic fragmentation. Increase the fragmentation time if your libraries are too big, decrease it if the libraries are too small.
	False size selection	<ul style="list-style-type: none"> > Make sure that the used size selection ratio is correct. > Make sure that your sample is in the correct buffer/reagent. > Check, if the correct volumes are used. The given size selection ratios are based on volume. > Avoid evaporation during the library preparation process (e.g. by using vapor lock) to keep the volumes correct.
	PCR biased overamplification of shorter fragments	<ul style="list-style-type: none"> > Introduce a size selection step after adapter ligation, if possible. > Reduce the number of PCR cycles.
I do see a high molecular weight product during my final QC. This appears to affect my sequencing results.	Overamplification	<ul style="list-style-type: none"> > Increase the concentration of primers. Ensure that primers are intact. > Decrease the amount of input material. > Reduce the number of PCR cycles.
I do see a huge sharp peak at around 100 bp during my final QC. This appears to affect my sequencing results.	Formation of adapter dimers	<ul style="list-style-type: none"> > Lower the adapter concentration. > Do not pre-mix adapters and ligation mix. > Consider one additional bead cleanup step.

Order Your NGS Solution Package

epMotion® 5073t NGS Solution		
	with CleanCap**	without CleanCap**
	MultiCon	MultiCon
INT	5073000978 + 5073001333	5073000978

epMotion® 5075t NGS Solution		
	with CleanCap***	without CleanCap
	MultiCon	MultiCon
INT	5075000963	5075000962

Accessories included*	epMotion 5073t	epMotion 5075t
License »Enhanced Feature Set 1« (5075000964)	●	●
Thermal Modul on C2 position (5075002612)	✗	●
TS 50 single-channel dispensing tool (528000010)	●	●
TS 300 single-channel dispensing tool (528000037)	●	●
TM 50 eight-channel dispensing tool (5280000215)	✗	●
TM 300 eight-channel dispensing tool (5280000231)	●	●
Gripper with holder (5282000018)	●	●
Gripper with gripper tower (5075751895)	●	✗
Thermoblock PCR 96 OC (5075751666)	●	●
Thermoadapter for PCR 96 (5075787008)	● (1 pc per package)	● (2 pcs per package)
Reservoir Rack (5075754002)	●	●
Reservoir Rack Module NGS (5075751917)	●	✗
Rack ILMN tubes (5075751747)	✗	●
TipHolder 73 (5075751879), 2 pcs	●	✗
Eppendorf Magnum FLX® Magnet Adapter (5075751836)	●	●
Waste Bag Holder (5075753103)	●	●
400 mL Liquid Waste Tub (5075751720)	●	●

Consumables*	epMotion 5073t	epMotion 5075t
Box for epTIPS Motion 10/50/300µL Reload (0030014669)	● (1 pc per package)	● (2 pcs per package)
Clip for epT.I.P.S. Motion Reloads (5075751070)	● (1 pc per package)	● (2 pcs per package)
epT.I.P.S.® Motion as Reload System, with filter, PCR clean, 50 µL, 2.304 tips: 24 trays × 96 tips (0030014430)	●	●
epT.I.P.S.® Motion as Reload System, with filter, PCR clean, 300 µL, 2.304 tips: 24 trays × 96 tips (0030014472)	●	●
Eppendorf twin.tec® PCR plate 96, semi-skirted, PCR clean, 25 pcs. (0030128575)	●	●
epMotion reservoir 30 mL, PCR clean, 50 pcs. (0030126505)	●	●
Eppendorf Safe-Lock tubes, 1.5 mL tubes, PCR clean, 1000 pcs. (0030120086)	●	●
Eppendorf Tubes® 5.0 mL with screw cap, sterile, 200 pcs. (0030122321)	●	✗
Waste bags, for epMotion, up to 7 L volume, autoclavable, 50 pcs. (5075751780)	●	●

- Accessories/Consumables included
- ✗ Accessories/Consumables not included

* 1 pcs. each if not stated otherwise

** S/N > 7000: Waste bin UV-shield 45 mm (5075751976) included, upgradable with Waste bin UV-shield 100 mm (5075751992)

*** S/N > 4657: upgradable with Waste bin UV-shield 45 mm (5075751976) or Waste bin UV-shield 100 mm (5075751992)

S/N > 5695: Waste bin UV-shield 45 mm (5075751976) included, upgradable with Waste bin UV-shield 100 mm (5075751992)

Accessories include two plugs for each region: EU, US, GB, AU, CN

Your local distributor: www.eppendorf.com/contact
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