

**BIOHIT**

Innovating for Health



ALWAYS  
INSIST ON  
THE PERFECT  
MATCH!

# Adopt a new angle

*TO TIP QUALITY*

- ✗ Tests prove the right tip ensures the functionality of your liquid handling system.
- ✗ A saving of a few cents per tip might imply a loss of thousands – or worse. In your work every percent counts.
- ✗ Every wasted pipetting action costs – both in working hours and material.



# BIOHIT

Innovating for Health

PREMIUM PIPETTOR TIPS

## For extended quality



### Can you really afford to compromise on tip quality?

Probably not. What you gain in savings from the lowest priced plastics you might lose in working hours and expensive reagents. So don't buy just pipettes and tips, but a complete liquid handling system.

### Every per cent counts

Make sure you get accurate pipetting results from the beginning and use the tip that is the most suitable for your pipettor. The correct tip saves you unnecessary pipetting actions as well as time and money.



You don't need to spend time in checking out different tip brands anymore. When your tip choice is Biohit, you already have everything you need. For any pipetting.

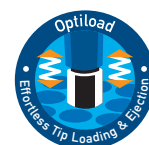
Although our tips are primarily designed to match perfectly with our pipettors, the tips are also compatible with most other pipette brands.

### Functional design ensures the tip acts the way it should

As the tip is an integral component of the pipetting system, its shape, material properties and fit have a considerable influence on pipetting accuracy and results. Variation in any of these will cause errors in the volume of the liquid being handled.

When working with multichannel pipettors, you should pay extra attention to how well the tip fits the pipettor!

Biohit ensures perfect tip sealing with high quality tips and Optiload mechanism (included in eLINE & mLINE pipettors).



### BIOHIT TIPS STAND FOR...

- ✗ Strict quality standards from R&D to dispatch
- ✗ Only the highest quality materials
- ✗ RNase, DNase and endotoxin free manufacturing process
- ✗ Sealed boxes to ensure clean and safe shipping

### BIOHIT TIPS STAND FOR...

- ✗ Testing and certification before delivery
- ✗ Perfect fitting and sealing with Biohit pipettors
- ✗ Traceability
- ✗ Finnish innovation and high quality
- ✗ CE/IVD certification





*BIOHIT PIPETTORs + BIOHIT TIPS*

## Better results with integration

- X** The best possible compatibility and tip sealing
- X** The best possible accuracy, without errors in pipetting volumes
- X** An IVD compliant liquid handling system

Biohit offers you precision-made pipettor tips to provide excellent reproducibility and accuracy together with all Biohit and most other pipette brands. To ensure the best results, always use Biohit tips together with Biohit pipettors.

## Tips for all needs of pipetting

You can choose from a wide range of Biohit tips for different applications. All tips, trays and single tray boxes are autoclavable. You can purchase tips in single tray tip boxes as non sterile or pre-sterilized, in refills and in bulk packs.

### Standard Tips

Biohit Standard Tips are made of premium-grade virgin polypropylene (PP). The tips are metal-free and available in autoclavable (121°C; 20 min; 1 bar) Single Tray boxes (as certified RNase, DNase and endotoxin free), in space saving Refill System and in Bulk packages. Electron beam pre-sterilized tips in trays are also available.

### Filter Tips

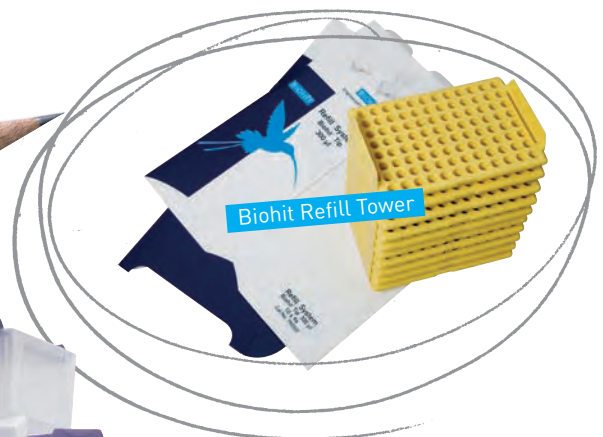
Biohit Filter Tips are made of virgin polypropylene (PP) and feature filter barriers (PE) to prevent aerosol and liquid contamination. This helps protect against the risk of cross-contamination and reduces maintenance requirements of the pipettor. Filter tips are tray packed, electron beam pre-sterilized and certified as RNase, DNase and endotoxin free.

### Biohit tips and boxes are made of recyclable material

- Tips, trays & boxes: polypropylene (PP)
- Filters in filter tips: polyethylene (PE)

*LESS WASTE &  
ENVIRONMENTAL HAZARDS  
with Biohit Refill System*

The Biohit Refill System not only saves space on your laboratory bench; you also get less waste to dispose of. To help you take care of our environment, the material used in the packages can be recycled.



Single Tray packages



# Economic packaging choices

Colour coding of the tip trays allows immediate tip volume recognition.



## Single Tray boxes for safer laboratory work

The Single Tray tip boxes are a must for demanding laboratory work. The rigid and strong polypropylene boxes and trays are fully autoclavable. The tray holds 96 highest grade non-wettable virgin polypropylene tips in an 8 x 12 microplate format. The flip-top boxes can be opened and closed using a single hand. All standard tips are available in single trays (non-sterile or pre-sterilized) as certified RNase, DNase and endotoxin free.

## Refill System, ecological and space-saving

The Biohit Refill System is environmentally friendly with a completely recyclable packaging. The tip trays are easily transferred from a space-saving Tower or Refill Pack to the Single Tray tip boxes. The Refill System covers the five most popular Standard Tip sizes (10, 300, 350, 1000 and 1200 µl).

## Bulk Tips – the economic option

The most economic alternative is to buy Bulk Tips that are available in boxes with 100, 400 or 1000 Standard Tips (depending on tip size, see ordering details). However, no compromises are made regarding the quality and the bulk tips undergo the same rigid quality control as other Biohit tips.

## Instructions on how to use the Refill Tower for 10, 300 and 350 µl tips



- Remove the empty tray from the tip box.
- Lift up the upper part of the tower box.
- Take one tip tray from the refill tower.
- Put the tip tray into the empty tip box.










## Instructions on how to use the Refill Pack for 1000 and 1200 µl tips



- Detach a Refill Pack.
- Open the cover film from the marked corner.
- Remove the empty tray from the tip box.
- Take the tip tray from the Refill Pack and put it into the empty tip box.

# Ordering details

## Biohit Standard Tips

Tip	Tip ID	Volume Range	Length	Packaging	Type	Qty/Unit	Cat. No.
	A	0.1 - 10 µl	31.5 mm	Single Tray	Non Sterile	10 x 96 Tips	790010
				Single Tray	Pre-Sterilized	10 x 96 Tips	790011
				Refill Tower	Non Sterile	10 x 96 Tips	790012
				Bulk in Box	Non Sterile	1000 Tips	781349
	C	0.5 - 300 µl	51 mm	Single Tray	Non Sterile	10 x 96 Tips	790300
				Single Tray	Pre-Sterilized	10 x 96 Tips	790301
				Refill Tower	Non Sterile	10 x 96 Tips	790302
				Bulk in Box	Non Sterile	1000 Tips	780011
<b>New design</b> 	D	5 - 350 µl	54 mm	Single Tray	Non Sterile	10 x 96 Tips	790350
				Single Tray	Pre-Sterilized	10 x 96 Tips	790351
				Single Tray	Non Sterile	10 x 96 Tips	790352
				Bulk in Box	Non Sterile	1000 Tips	780033
<b>New Refill Pack</b> 	E	10 - 1000 µl	71.5 mm	Single Tray	Non Sterile	10 x 96 Tips	791000
				Single Tray	Pre-Sterilized	10 x 96 Tips	791001
				Refill Pack	Non Sterile	10 x 96 Tips	791002
				Bulk in Box	Non Sterile	400 Tips	780021
	Wide Bore Tip G	10 - 1000 µl	68.5 mm	Single Tray	Non Sterile	10 x 96 Tips	791020
				Single Tray	Pre-Sterilized	10 x 96 Tips	791021
				Bulk in Box	Non Sterile	1000 Tips	780053
<b>New Refill Pack</b> 	H	50 - 1200 µl	71.5 mm	Single Tray	Non Sterile	10 x 96 Tips	791200
				Single Tray	Pre-Sterilized	10 x 96 Tips	791201
				Refill Pack	Non Sterile	10 x 96 Tips	791202
				Bulk in Box	Non Sterile	1000 Tips	780043
	Extra Long Tip Z	50 - 1200 µl	90 mm	Single Tray	Non Sterile	10 x 96 Tips	791210
				Single Tray	Pre-Sterilized	10 x 96 Tips	791211
	J	100 - 5000 µl	150 mm	Single Tray	Non Sterile	50 Tips	780304
				Single Tray	Pre-Sterilized	50 Tips	780305
				Bulk in Box	Non Sterile	100 Tips	780300
				Bulk in Carton	Non Sterile	1000 Tips	780308
	K	0.5 - 10 ml	242 mm	Bulk in Box	Non Sterile	100 Tips	780310





Single Tray



Refill Pack



Refill Tower













Bulk Tips

## Empty Tip Boxes for Refill System (tips and trays are not included)

Item	Tip ID	Tip Type (Standard Tips)	Qty/Unit	Cat. No.
Empty Tip Box for Refill System	A, C, D	10, 300, 350 µl	10	790910
Empty Tip Box for Refill System	E, H	1000, 1200 µl	10	790920









## Biohit Filter Tips

Tip	Tip ID	Volume Range	Length	Packaging	Type	Qty/Unit	Cat. No.
	L	0.1 - 10 µl	32 mm	Single Tray	Pre-Sterilized	10 x 96 Tips	783200
Extra Long Tip 	M	0.1 - 10 µl	46 mm	Single Tray	Pre-Sterilized	10 x 96 Tips	783201
	N	0.5 - 20 µl	51 mm	Single Tray	Pre-Sterilized	10 x 96 Tips	783209
	O	2 - 100 µl	51 mm	Single Tray	Pre-Sterilized	10 x 96 Tips	783203
	V	2 - 120 µl	51 mm	Single Tray	Pre-Sterilized	10 x 96 Tips	783221
	P	5 - 200 µl	51 mm	Single Tray	Pre-Sterilized	10 x 96 Tips	783205
	Q	5 - 300 µl	52.5 mm	Single Tray	Pre-Sterilized	10 x 96 Tips	783207
	R	10 - 500 µl	78 mm	Single Tray	Pre-Sterilized	10 x 100 Tips	783206
	S	50 - 1000 µl	78 mm	Single Tray	Pre-Sterilized	10 x 100 Tips	783208
	T	50 - 1200 µl	90 mm	Single Tray	Pre-Sterilized	10 x 96 Tips	783222

New design

For your guidance the tips are illustrated at actual size.

## Compatibility chart

Mechanical Pipettors			Biohit Standard Tips							Filter Tips							Special Tips				
			10	300	350	1000	1200	5000	10 000	10	10 Ext. 20	100	120	200	300	500	1000	1200	1000 WB	1200 Ext.	
	Cat. No.	$\mu$ l	A*	C	D	E	H	J	K	L	M	N	O	V	P	Q	R	S	T	G	Z
	<b>mLINE Single Channel</b>		725010	0.1-3	•						•	•									
	725020	0.5-10	•							•	•										
	725030	2-20		•								•									
	725050	10-100		•	•								•	•							
	725060	20-200		•	•									•	•	•	•				
	725070	100-1000				•												•			•
	725080	500-5000						•													
	725120	0.5-10	•								•	•									
	<b>8-Channel</b>		725130	5-100		•	•						•	•							
	725140	30-300			•											•					
	725220	0.5-10	•							•	•										
	<b>12-Channel</b>		725230	5-100		•	•						•	•							
	725240	30-300			•											•					
	720005	0.1-2.5	•							•	•										
	<b>Proline Adjustable Volume Single Channel</b>		720000	0.5-10	•	•					•	•	•								
	720080	2-20		•								•	•								
	720020	5-50		•	•								•	•							
	720050	10-100		•	•								•	•	•	•					
	720070	20-200		•	•									•	•	•					
	720060	100-1000				•												•			•
	720110	1000-5000						•													
	720120	5-50		•	•								•	•	•	•					
	<b>4-Channel</b>		720130	50-250		•	•									•					
	720210	0.5-10	•							•	•										
	720220	5-50		•	•								•	•	•	•					
	<b>8-Channel</b>		720240	50-300		•										•					
	720310	0.5-10	•							•	•										
	720320	5-50		•	•								•	•	•	•					
	<b>12-Channel</b>		720340	50-300		•										•					
	722001	5	•	•						•	•	•									
	722004	10	•	•						•	•	•									
	<b>Proline Fixed Volume Single Channel</b>		722010	20		•	•					•	•								
	722015	25		•	•								•	•							
	722020	50		•	•								•	•							
	722025	100		•	•								•	•	•	•					
	722030	200		•	•									•	•						
	722035	250				•											•	•			•
	722040	500				•											•	•			•
	722045	1000				•												•			•
	722050	2000						•													
	722055	5000							•												

\* Extended inaccuracy and imprecision of the pipettes with a pre-sterilized A tip.






# Electronic Pipettors

## Biohit Standard Tips

## Filter Tips

## Special Tips

10 300 350 1000 1200 5000 10 000      10 10 Ext. 20 100 120 200 300 500 1000 1200      1000 WB 1200 Ext.

	Cat. No.	µl	A*	C	D	E	H	J	K	L	M	N	O	V	P	Q	R	S	T	G	Z	
	<b>eLINE</b>																					
	<b>Single Channel</b>																					
		73002X	0.2-10	•							•	•										
		73004X	5-120		•	•									•							
		73006X	10-300			•										•						
		73008X	50-1000				•												•			•
		73010X	100-5000						•													
	<b>8-Channel</b>																					
		73032X	0.2-10	•							•	•										
		73034X	5-120		•	•									•							
	73036X	10-300			•										•							
	73039X	50-1200					•												•		•	
<b>12-Channel</b>																						
	73042X	0.2-10	•							•	•											
	73044X	5-120		•	•									•								
	73046X	10-300			•										•							
	73049X	50-1200					•												•		•	
	<b>Proline</b>																					
	<b>Single Channel</b>																					
		710520	0.2-10	•							•	•										
		710010	5-100		•									•	•							
		710030	10-250		•	•										•						
		710100	10-500				•										•				•	•
		710020	50-1000				•												•		•	•
		710040	50-1200					•												•		•
		710500	100-5000						•													
	<b>4-Channel</b>																					
	710410	5-100		•	•								•	•	•	•						
	710420	25-250			•											•						
<b>8-Channel</b>																						
	710200	0.2-10	•							•	•											
	710210	5-100		•	•								•	•	•	•						
	710220	25-250			•											•						
	710800	50-1200					•												•		•	
<b>12-Channel</b>																						
	710300	0.2-10	•							•	•											
	710310	5-100		•	•								•	•	•	•						
	710320	25-250			•											•						
	710810	50-1200					•												•		•	
	<b>ePET</b>																					
	<b>Single Channel</b>																					
		71052XET	0.2-10	•							•	•										
		71001XET	5-100		•									•	•							
		71002XET	50-1000				•												•		•	•
		71004XET	50-1200					•												•		•
	71050XET	100-5000						•														
<b>8-Channel</b>																						
	71020XET	0.2-10	•							•	•											
	71021XET	5-100		•	•								•	•	•	•						
	71022XET	25-250			•											•						
	71080XET	50-1200					•												•		•	
<b>12-Channel</b>																						
	71030XET	0.2-10	•							•	•											
	71031XET	5-100		•	•								•	•	•	•						
	71032XET	25-250			•											•						
	71081XET	50-1200					•												•		•	
<b>Proline XL</b>																						
	71090X	0.1-25 ml						•	•													
<b>Midi Plus</b>																						
	71093X	1-100 ml						•	•													

\* Extended inaccuracy and imprecision of the pipettes with pre-sterilized A tips.

## It pays to buy quality tips...

Your pipettor needs the best tips and we can guarantee the quality of ours. All our products are tested and certified according to strict quality standards. Tips and packages are fully traceable.

### Good Manufacturing Practices (GMP) and ISO 13485

We manufacture the tips in our own production facilities. Therefore we can guarantee that each tip is made to perfectly match with the Biohit pipettor, ensuring maximum precision and reliability.

To avoid contamination from human contact, we have automated the whole manufacturing process. Pure polypropylene (PP) plastic is automatically fed from silos to moulding machines. The moulding machines and robots that are located in clean room cells load the tips automatically to the tip trays and packaging. All Biohit tip trays are individually and automatically wrapped in air-tight plastic to rule out any danger of contamination.

Additionally, our highly experienced and trained personnel supervising the tip production is equipped with appropriate and specially designed clothing, masks, hair nets and gloves to further diminish the contamination risks.

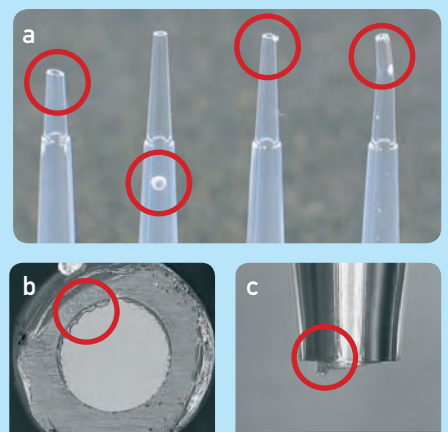


### WARNING!

REGULAR TIPS MIGHT HAVE MICROSCOPIC DEFECTS WHICH MAY CAUSE FATAL INACCURACIES IN YOUR PIPETTING RESULTS.

#### Figures

A closer look to tips may reveal flashes, protrusions, scratches, air bubbles, bent tips, or impurities (a); the tip orifice may not be accurately centered (b); the tip has debris (c). At Biohit, we realize the necessity of extensive quality checks and know that even minor defects in tips may have fatal consequences.





- DURING OUR QUALITY CONTROL WE CHECK**
- X Geometry and shape of the tip
  - X Occurrence of scratches, mechanical fails, air bubbles, plastic debris and impurities
  - X Sealing to tip cone
  - X Functionality together with a pipettor for straight fluid flow
  - X Cleanliness of the tip



### ISO 13485

ISO 13485 quality standard is specific to medical device quality systems and supplements the more generic ISO 9001 standard that applies to many industries. Additional ISO 13485 requirements include those that are critical in the medical device industry, e.g. special processes, design controls, process controls including environmental, traceability, record retention and regulatory actions.



### IVD

*In vitro* diagnostics (IVD) is the analysis of medical samples, such as blood, tissues, or urine that are taken from patients or healthy individuals. IVD tests are used to make a correct diagnosis for proper treatment (evidence-based medicine), but are also used extensively to follow up the treatment.



### The IVD Directive

The IVD Directive (98/79/EC)1 is the third in a series of European Directives on medical devices. The purpose of the IVD Directive is to ensure that only safe and functional products are sold in the European market, with clearly outlined regulations regarding manufacture, importing, and marketing. The CE/IVD mark stands for excellent quality and purity and thus guarantees maximum reproducibility for experiments and analyses.



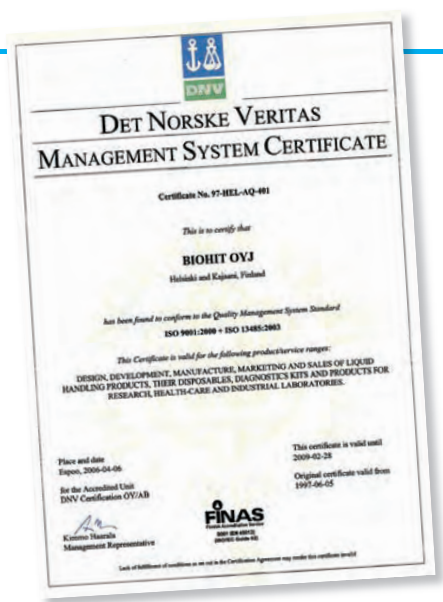
### Finnish quality

The certified Biohit pipettor tips have been carefully manufactured in a protected environment in Finland. Our quality management system follows not only ISO 9001 and ISO 14001, but also ISO 13485 (ISO standard for medical devices) which enables us to give CE / IVD certification for both pipettors and tips, including design, development, manufacture, marketing and sales.

### Certification and traceability

Before sending out any tips to the customer, we test them thoroughly. To ensure high quality and accurate pipetting results, each non-sterile and pre-sterilized single tray tip lot is checked for RNase, DNase and Endotoxins by an independent laboratory. You get detailed information about the analysis and test methods in the Certificate of Quality which can be downloaded from our website.

All Biohit tips are fully traceable. Mould cavity identification markings are printed on each tip, and tip packages are lot numbered.



# WHAT YOU SHOULD Consider when buying tips



## Further reading available at [www.biohit.com](http://www.biohit.com)

- Mannonen, S. and Hintikka, V. (2004). Poorly selected tips can cause major error to pipetting accuracy. *Int. Labmate*. 29(2), 55-56.
- Mannonen, S. (2005) Pipettor tip cone filters minimise the risk of contamination. *Labasia* 12(4), 24-25; and *Int. Labmate* 30(5), 15-16.
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- Mannonen, S., Riikonen, S. (2006) In Vitro Diagnostics (IVD) compliance and what it means in Practice. *Am. Biotech. Lab.*

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