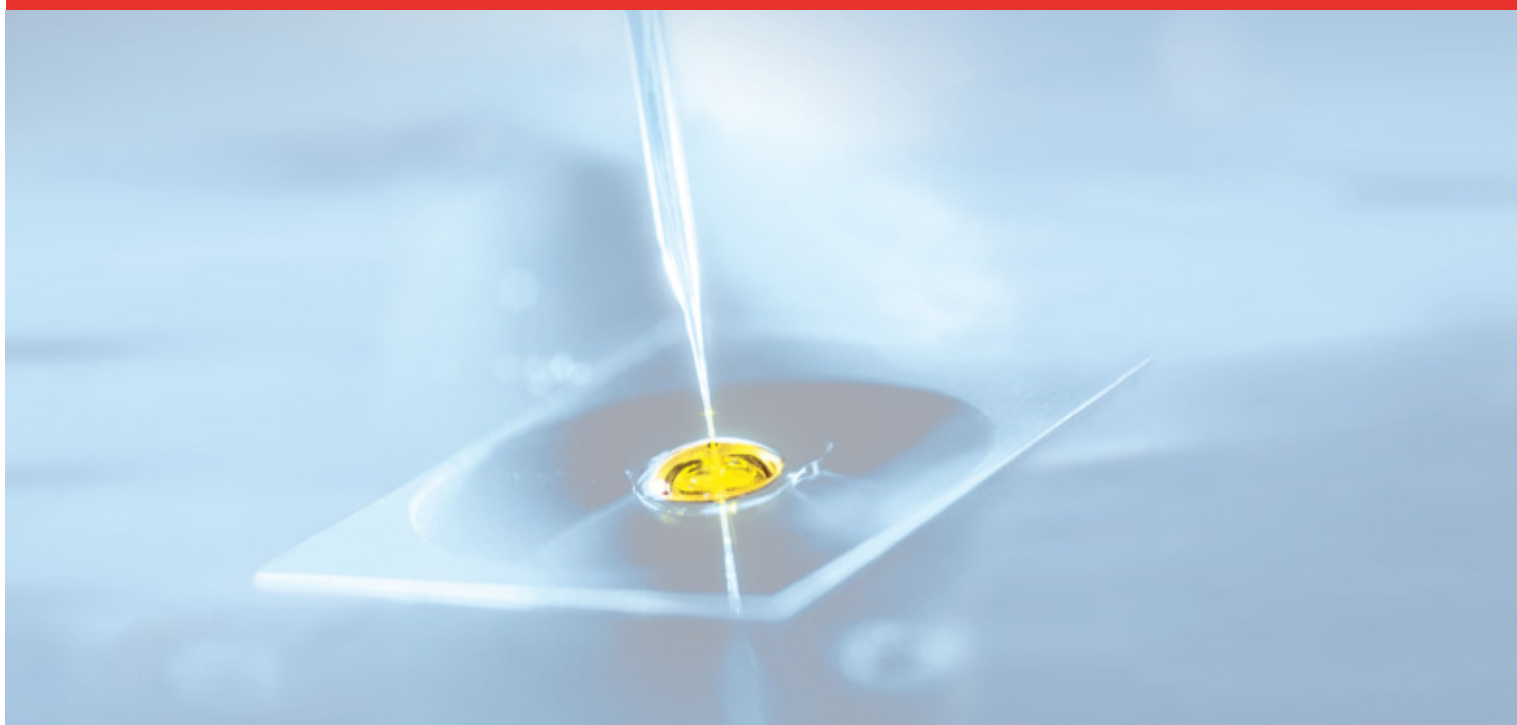


Catalog

2011/12



THINK! Development and production of customized products



Liquid handling products



Labware for general lab applications



Life sciences products for microbiology and biotechnology



Cryo products for deep-freeze applications

ratiolab[®]
disposables for sciences



Dear Customer,

Just holding this catalog, you can instantly see a lot has been going on at ratiolab®.

- Instead of four individual catalogs, we have now included the complete product range in the one comprehensive catalog
- Pictograms and appealing colors clearly differentiate the four product groups
- The new layout makes the catalog easy to use and provides the essential product information
- Under the heading THINK! we have given the important area of "Development and manufacture of customized OEM products" its own special spot
- By upgrading our Corporate Identity, we have positioned ratiolab® quite clearly and unmistakably on the international market
- Whether in advertising or in journal editorials, ratiolab® is now even more frequently present in the media
- We have expanded our production area in our new building to increase our capacity

As before, you will find all relevant product and service information on the Internet under www.ratiolab.com in both German and English. All new products, product improvements and our trade fair activities are also listed in up-to-date form.

In addition, of course, our staff will be most willing to advise you and help you with any questions you may have.

Your

Johannes Frauendörfer
Managing Director

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Our Company



THINK! Development and production of customized products



Liquid handling products



Labware for general lab applications



Life sciences products for microbiology and biotechnology

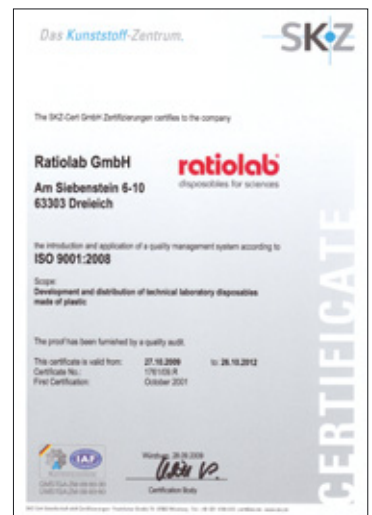


Cryo products for deep-freeze applications

What ratiolab® offers

For over 35 years now we have – in close cooperation with our customers – been developing professional solutions for laboratory routine and for research, science and industry.

We supply everything that facilitates daily work routines, increases accuracy and improves process safety – in fact, those items that help to make the laboratory all that more efficient!



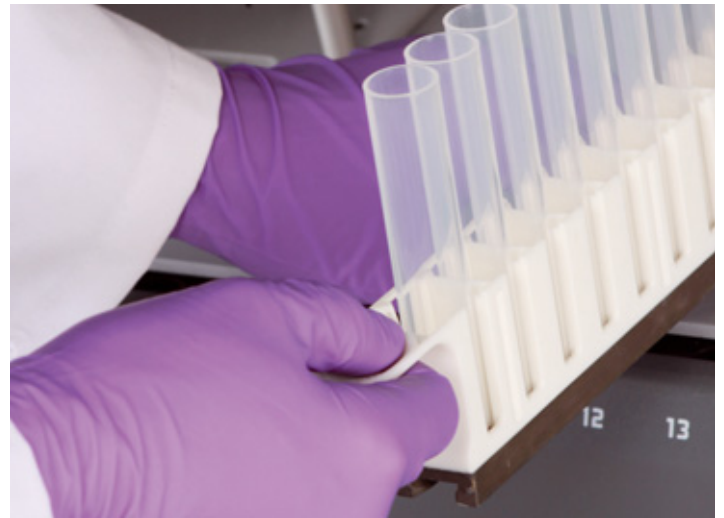
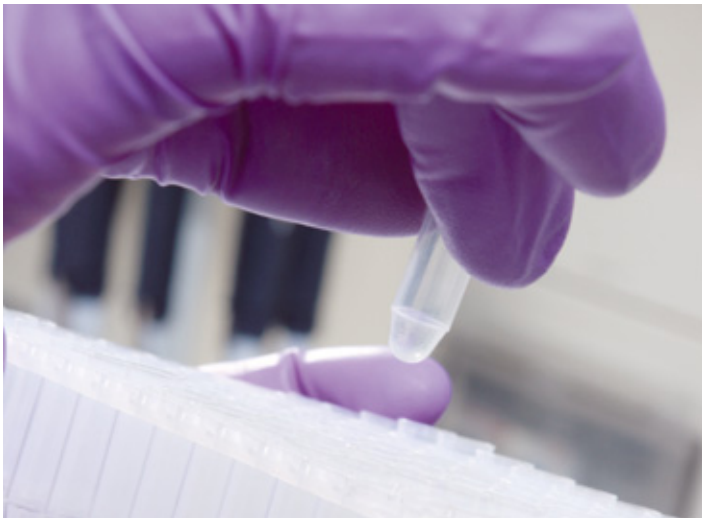
Practically all of our disposable products are manufactured at our plant in Dreieich, Germany. On a daily basis, thousands of laboratory items are produced from high-quality plastics using tools of the highest precision in state-of-the-art automatic injection-molding machines. If so desired, we can develop packaging forms suitable for automatic processing to your own specifications; we can also package your wares according to your hygiene standards and can customize these to international requirements, even in small series.

Increasingly, new demands are being made of disposable products. Here, we are available to research and industry for the development of individual, customized products. We can accompany the user right from the first mutual

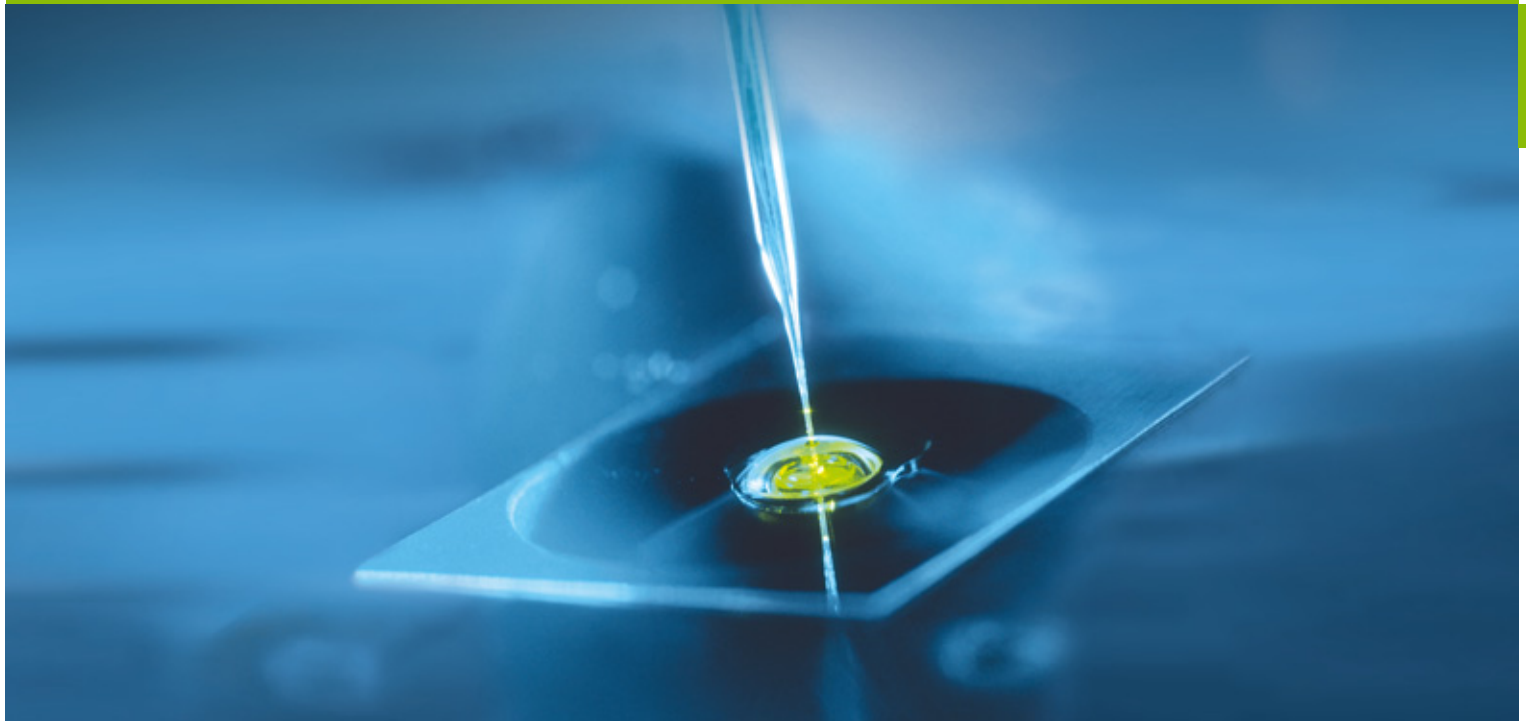
idea through CAD, construction, the production of prototypes to the efficient production and packaging of the finished product.

Our Quality Management System is of course certificated according to DIN EN ISO 9001:2008 and ISO 13485; for only uniform high quality products guarantee the accuracy and reproducibility you require in your labs.

The plant, administration and warehouse are located in Dreieich near Frankfurt am Main, Germany. Sales in Germany and worldwide in over 30 countries is via qualified laboratory suppliers. ratiolab® is also present at all important national and international trade fairs.



Think!



Think! Development and production of customized products



Liquid handling products



Labware for general lab applications



Life sciences products for microbiology and biotechnology



Cryo products for deep-freeze applications

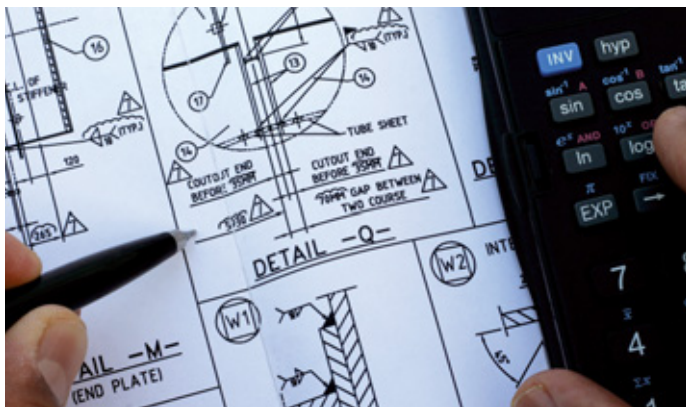
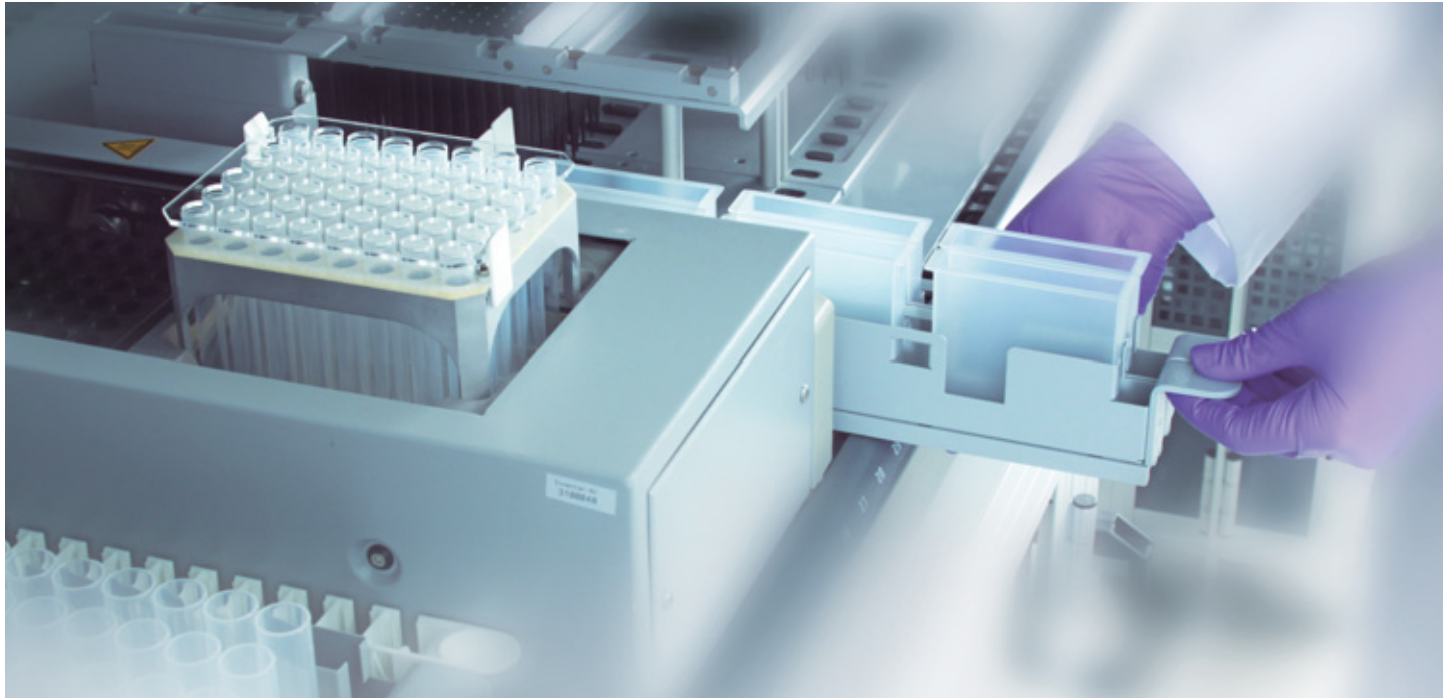
Think!



We can make your ideas become reality!

Laboratory disposables made of plastic for research, science and industry are much in demand. Frequently, however, tasks have to be performed where standard products are just not good enough.

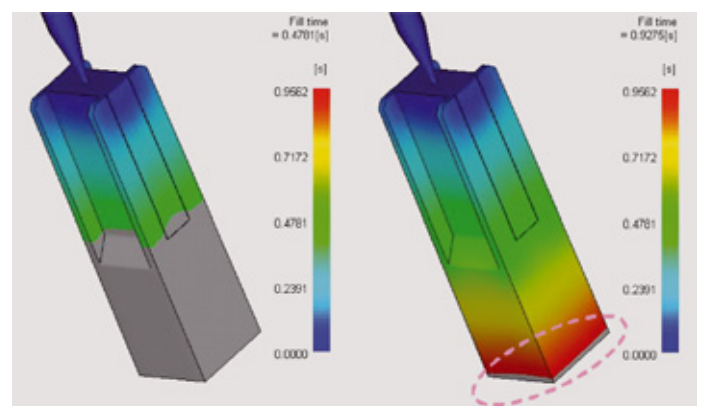
Here, individual solutions are required – whether for special pipet tips, non-standard cuvettes, customized magazines or even items that do not exist...



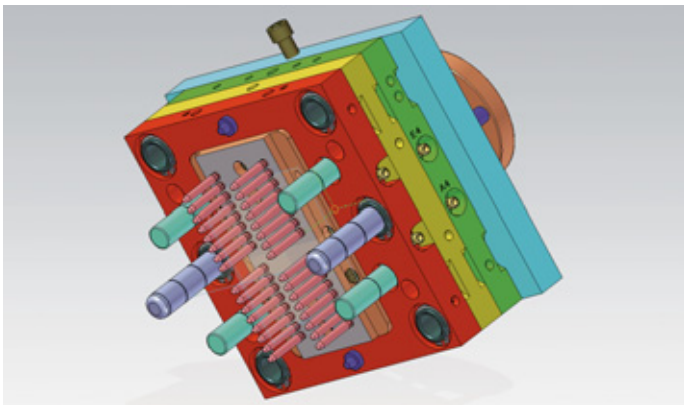
1. Joint development.

Your ideas coupled with our know-how – in this constellation, a solution is not far away. Together, we can develop the product* you require for the specific task in hand – from the initial specifications to the first sketches to ultimate CAD construction. And from the first prototype to series production using state-of-the-art processing, where even three-dimensional products can be created directly from a data base.

* such as these sample extraction tubes and reagent vessels for an innovative system for testing stored blood for viruses.

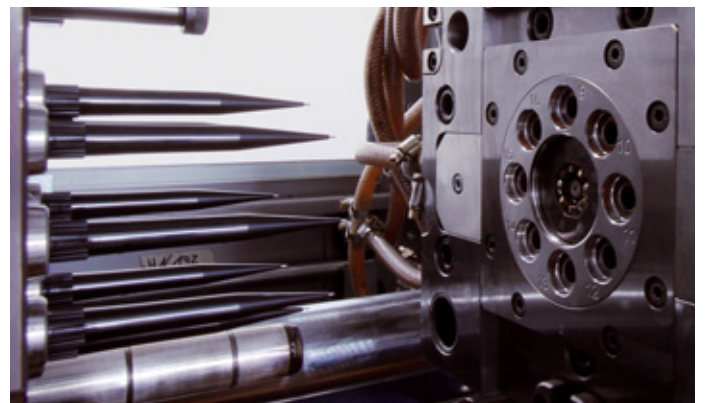


Think!



2. Intelligent tool design.

Intelligently designed tools play a decisive role in the quality and profitability of products produced by them. We have over 30 years of experience in this field; we thus know precisely how tools have to be designed for the production of particularly thin-walled products, how quality can be improved by the integration of contour cooling and how stroke frequency can be increased in injection molding. And, in urgent situations, tooling can be created at short notice.





3. Perfection in production.

We have state-of-the-art injection-molding machines. In addition to our own products, we can produce yours – in series of thousands or hundreds of thousands, in uniform high quality – using plastic materials of the highest quality.

4. Flexibility in packaging.

We can design the desired packaging for your products, whether environmentally friendly manual packs, practical refill systems or racks suitable for automated processes. We can package the products according to your hygiene requirements and individualize them, even in small quantities.



5. Reliable logistics.

We have a large, well-organized warehouse facility. On a daily basis, we pick and dispatch numerous orders throughout the world. You can rely on us to do the same with your products. We can hold them on call for delivery to you or your customers.



Liquid handling



Think Development and production of customized products



Liquid handling products



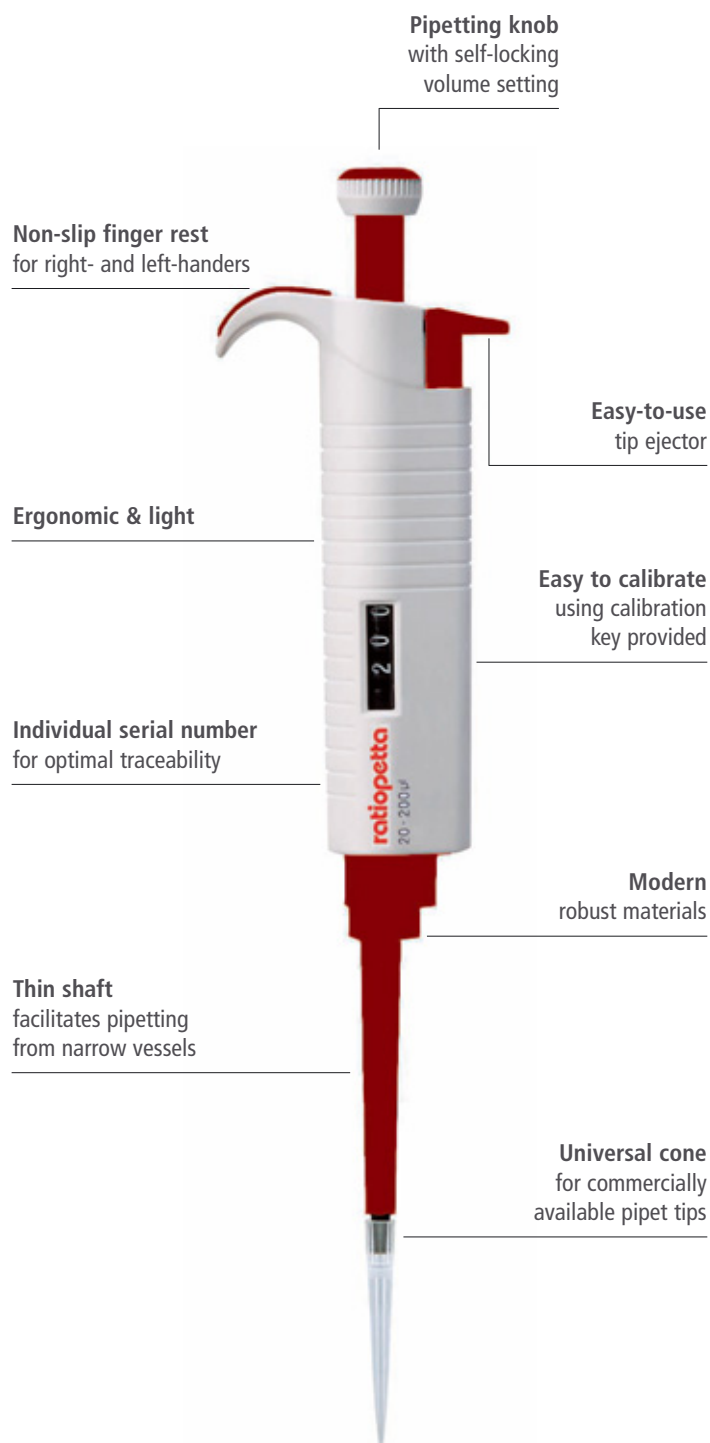
Labware for general lab applications



Life sciences products for microbiology and biotechnology



Cryo products for deep-freeze applications



ratiopetta®



Pipetting is one of the most frequently used applications in laboratories. This is not only where precision and reliability are important, users also need products that are ergonomic, light and convenient. The new ratiopetta® from ratiolab® meets these demands while offering outstanding value for money.

Product properties

- obtainable in volumes from 0.1µl – 5000µl
- easy volume setting by smooth-running setting ring
- fatigue-free work possible for the analyst over longer pipetting series
- touch-sensitive pressure points for pipetting and discharging
- modern, innovative materials
- individual checking according to ISO8655/DIN12650 prior to delivery
- delivery includes a test certificate
- individual serial numbers
- suitable for right- and left-handers
- easy to calibrate
- corrosion-resistant piston and tip ejector
- 1 year guarantee

Delivery includes:

- pipet
- calibration key
- operating instructions
- bench rack
- certificate
- lubricant



Single-channel Precision Pipets ratiopetta®



Volume Range µl	Accuracy* < ± %	Precision* < %	Quantity per Pack	Order No.
0.1 – 2.5	3.00	3.00	1	47 80 025
0.5 – 10	1.50	1.50	1	47 80 010
2.0 – 20	1.20	1.00	1	47 80 020
10 – 100	1.00	0.40	1	47 80 100
20 – 200	0.80	0.40	1	47 80 200
100 – 1000	0.70	0.25	1	47 81 000
1000 – 5000	0.60	0.30	1	47 85 000



8-channel Precision Pipets ratiopetta®



Volume Range µl	Accuracy* < ± %	Precision* < %	Quantity per Pack	Order No.
0.5 – 10	2.50	2.50	1	47 80 018
5.0 – 50	1.50	1.00	1	47 80 058
50 – 300	1.00	0.50	1	47 80 308



12-channel Precision Pipets ratiopetta®



Volume Range µl	Accuracy* < ± %	Precision* < %	Quantity per Pack	Order No.
0.5 – 10	2.50	2.50	1	47 80 012
5.0 – 50	1.50	1.00	1	47 90 052
50 – 300	1.00	0.50	1	47 90 302



1



2

Pipettor stands

Pipettor stands Labrack and ratiopetta®

- for the clearly laid out storing of up to 5 pipettors of different brands
- compatible with most multi-channel-pipettors

Product	Fig. No.	Quantity per Pack	Order No.
pipettor stand Labrack	1	1	94 20 020
pipettor stand for ratiopetta®	2	1	94 20 024

* Three measurements were carried out for all the pipets: minimum, maximum and mean volumes. The data shown are based on the mean volumes. On request, we can provide you with all of the results that were measured.

ratiolab® Pipetting Reservoirs

Pipetting reservoirs

The new ratiolab® pipet reservoirs made of white polystyrene (PS) are ideal for the repetitive filling of single and multi-channel pipets. Compact in design, these disposable items are both space-saving and stackable. Their broad edges give them a firm and safe stand. They are thus an uncomplicated and clean alternative to reusable reservoirs. The ratiolab® pipet reservoirs are produced in Germany and the material is recyclable.

This new product line is available in four application-oriented versions:

Version 1

- single reservoir with graduations to 25 ml
- max. volume = 50 ml
- angled bottom for practically complete withdrawal of sample and hence economical in use
- groove graduations for 10, 15, 20 and 25 ml
- labeling area

Version 2

- extra large single reservoir for up to 100 ml
- graduations at 50 and 100 ml
- conical bottom for economy due to minimum loss of medium

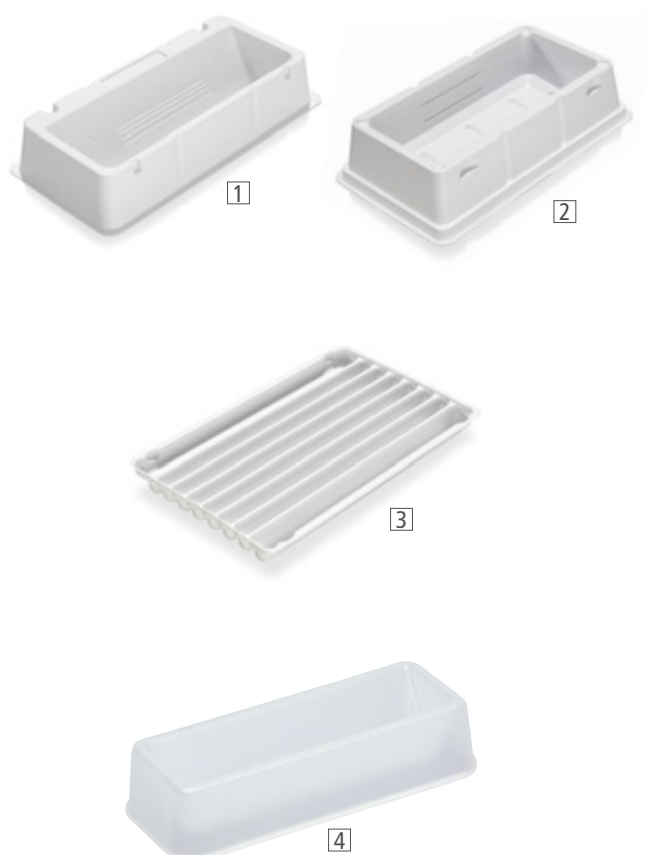
Version 3

- specially adapted for use with 8-channel pipets
- 8 separate channels of 6 ml volume (= 48 ml total)
- inclined sides

Version 4

- polypropylene (PP)
- max. volume = 50 ml

Versions 1-3 are available gamma-sterilized or unsterile.



Pipetting reservoirs made of PS

Volume	Sterilized	Quantity per Pack	Order No.
50 ml	1	bag 20 x 5	94 20 018
50 ml	1	bag 20 x 5	94 25 518
100 ml	2	bag 20 x 5	94 20 017
100 ml	2	bag 20 x 5	94 25 517

Pipetting reservoirs made of PS for 8-channel precision pipetting

Volume	Sterilized	Quantity per Pack	Order No.
6 ml	3	bag 1 x 100	94 20 016
6 ml	3	bag 1 x 100	94 25 516

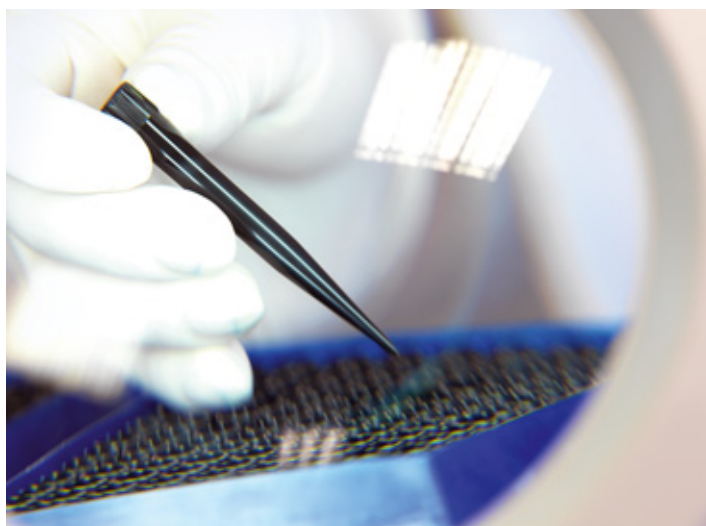
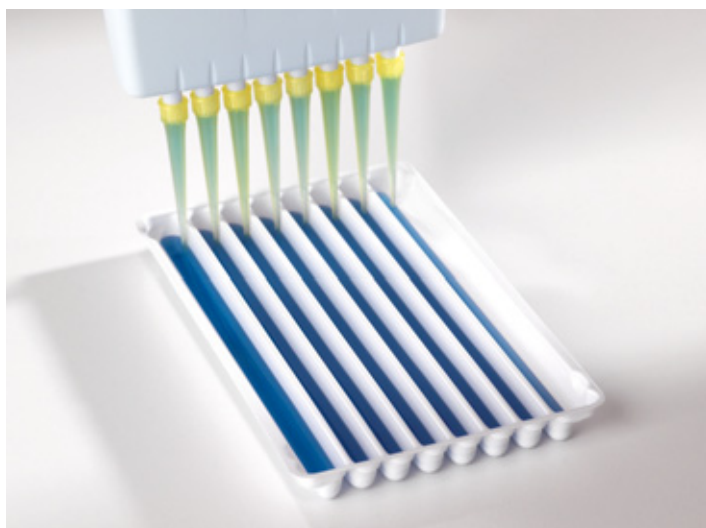
Pipetting reservoirs made of PP

Volume	Sterilized	Quantity per Pack	Order No.
50 ml	4	10	94 20 019

ratiolab® Pipet Tips

ratiolab® pipet tips

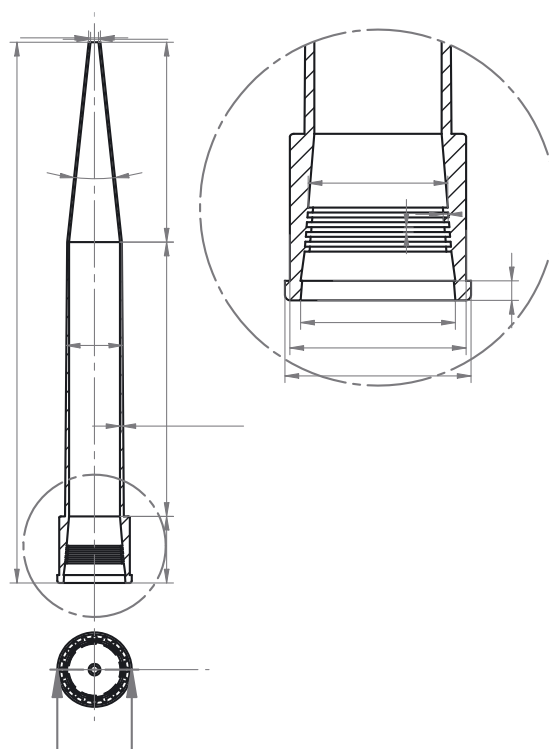
ratiolab® pipet tips are ideal for all commercially available pipets. Their uniform high quality and precision make today's pipets fully effective. Together with specially developed racks and refill systems and the ratiolab® Multibox, they make pipetting that much simpler and safe, also in the most sensitive of applications.



Precision in each and every detail – a guarantee for highest quality.

- made of high-quality polypropylene
- tight fit due to the precisely fitting cone
- optimal handling due to non-deforming shape
- autoclavable
- guaranteed dust-free due to special ionization treatment
- available pre-sterilized or unsterile
- excellent transparency due to high-quality surfaces
- minimal residual wetting due to controlled quality of raw materials used
- excellent volume accuracy due to precise tip orifice
- practice-oriented tip volumes
- aroject® tips with special filters made of hydrophobic PE-HD as aerosol barrier and for secure protection against contamination
- suitable for all commonly used pipet types

This is why ratiolab® pipet tips always provide perfect results.

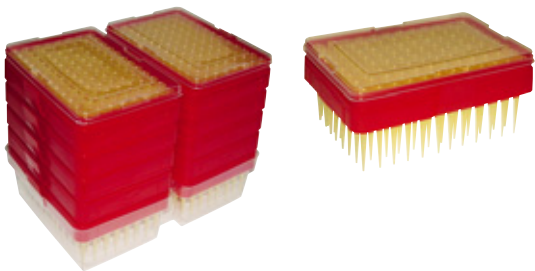


ratiolab® Pipet Tips System



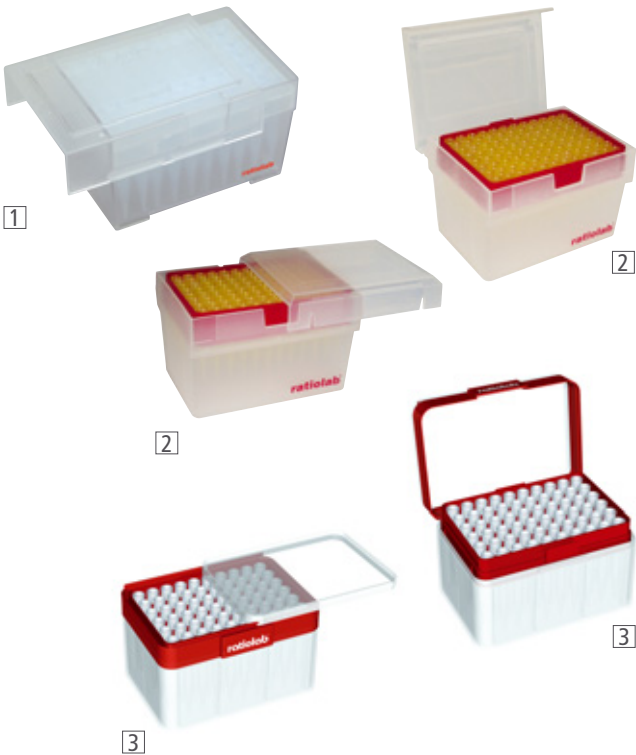
ratiolab® Multirack

- the new ratiolab® Multiracks provide even more time saving, perfect hygienic conditions and simple operation
- the pipet tips are placed on a robust matrix, in a 8 x 12 format for all tips up to 300 µl, and in a 6 x 10 format for tip size 200 – 1000 µl
- the tips can be picked-up by 1, 8 or 12-channel pipettors as well as by pipetting robots contamination-free and without any hand contact
- the Multiracks are durable and steady, and the hinged cover can be opened up to 180°
- after work, the Multibox® can be closed firmly by means of a click closure to protect the tips from dust
- the Multiracks are completely autoclavable at 121 °C, 20 min.
- Multiracks are available in sterile and non-sterile packs



MultiTray® for Multibox®plus, Multibox® and Multibox® ultra

- dust-proof refill pack with several plastic matrixes filled with tips
- the most functional, environmentally-friendly, space and cost-saving packaging



ratiolab® Multibox®, Multibox®plus and -ultra for MultiTray® pipet tips

Reusable pipet tip boxes for the ratiolab® MultiTray® refill systems

- Multibox®plus, PP, with dust-proof hinged and sliding lid, completely removable
- Multibox®, PC, with dust-proof sliding lid
- can be autoclaved several times at 121 °C, 20 min

Product	Fig. No.	Quantity per Pack	Order No.
ratiolab® Multibox®plus, PP, empty, for all MultiTray® pipet tips	1	1	80 20 001
ratiolab® Multibox®, PC, empty, for all MultiTray® pipet tips	2	1	80 10 160
ratiolab® Multibox®ultra PP, empty, for all MultiTray® pipet tips	3	1	80 30 160

ratiolab® Pipet Tips System



The new ratiolab® Multibox®plus/MultiTray® system simplifies the handling of pipet tips and provides more safety.

MultiTray®, the dust-proof refill packs made of transparent plastics for ratiolab® pipet tips, hold the tips in plastic matrices. Up to five plastic matrices filled with tips are stacked on top of each other in the space-saving MultiTray®.

For tips up to 250 µl the matrices contain 96 pipet tips in the 8 x 12 standard format. All 200 – 1000 µl tips are in a 6 x 10 format on the matrices. The matrices can simply be removed from the MultiTray® with the two finger tabs.

The MultiTray® matrices fit securely into the Multibox®plus with a soft click. The framework of the Multibox®plus provides full support for the MultiTray® matrices – resulting in convenient and safe tip pick-up, even with 8- and 12-channel pipetors. For tip removal the dustproof, hinged cover of the Multibox®plus may be opened completely or partially by using the additional sliding mechanism. For cleaning the cover can be removed.

The ratiolab® Multibox®plus/MultiTray® system is space- and cost-saving. It clearly reduces the amount of waste, and it provides more convenient and safe pipetting and sterilization.

ratiolab® Pipet Tips



Volume Range µl	Packaging	Quantity per Pack	Order No.
Crystal pipet tip "E" – volumes 0.5 – 20µl, for all commonly used pipets 	bag 1 x 1000	1	1000 25 00 170
	Multiracks 10 x 96	2	960 25 13 172
	Multiracks, sterilized 10 x 96	2	960 25 53 172
	MultiTray® 10 x 96	3	960 25 30 172
Crystal pipet tip "G", volumes 0.1 – 10 µl, for Gilson® Pipetman®/Neo 	bag 1 x 1000	1	1000 25 00 190
	Multiracks 10 x 96	2	960 25 13 192
	Multiracks, sterilized 10 x 96	2	960 25 53 192
	MultiTray® 10 x 96	3	960 25 30 192
Crystal pipet tip xl, volumes 0.1 – 10 µl, for all commonly used pipets 	bag 1 x 1000	1	1000 21 00 500
	Multiracks 10 x 96	2	960 25 13 502
	Multiracks, sterilized 10 x 96	2	960 25 53 502
	MultiTray® 10 x 96	3	960 25 30 173
Yellow pipet tip "E", volumes 1 – 200 µl, for all commonly used pipets 	bag 1 x 1000	1	1000 21 00 600
	Multiracks 10 x 96	2	960 21 13 602
	Multiracks, sterilized 10 x 96	2	960 21 53 602
	MultiTray® 10 x 96	3	960 21 30 602
Colorless pipet tip "E", volumes 1 – 200 µl, for all commonly used pipets 	bag 1 x 1000	1	1000 24 00 600
	Multiracks 10 x 96	2	960 24 13 602
	Multiracks, sterilized 10 x 96	2	960 24 53 602
	MultiTray® 10 x 96	3	960 24 30 602
Yellow pipet tip "universal", volumes 1 – 250 µl, for all commonly used pipets 	bag 1 x 1000	1	1000 25 00 160
	Multiracks 10 x 96	2	960 25 13 162
	Multiracks, sterilized 10 x 96	2	960 25 53 162
	MultiTray® 10 x 96	3	960 25 30 162
Colorless pipet tip "universal" – volumes 1 – 250µl, for all commonly used pipets 	bag 1 x 1000	1	1000 25 00 163
	Multiracks 10 x 96	2	960 25 13 163
	Multiracks, sterilized 10 x 96	2	960 25 53 163
	MultiTray® 10 x 96	3	960 25 30 163

1



2



3



ratiolab® Pipet Tips



Volume Range μ l	Packaging		Quantity per Pack	Order No.
Pipet tip "extended", volumes 1 – 200 μ l, for Thermo Scientific Finntip F1 and F2	bag 1 x 400	1	400	24 00 700
	Racks 10 x 96	2	960	24 10 702
				
Pipet tip "Oxford", volumes 1 – 200 μ l, for Oxford pipets	bag 1 x 1000	1	1000	25 00 110
				
Pipet tip "MLA", volumes 1 – 200 μ l, for MLA pipets	bag 1 x 1000	1	1000	25 00 140
				
Colorless pipet tip "universal", volumes 1 – 300 μ l, for all commonly used pipets	bag 1 x 1000	1	1000	23 00 650
	Multiracks 10 x 96	2	960	23 13 652
	Multiracks, sterilized 10 x 96	2	960	23 53 652
	MultiTray® 10 x 96	3	960	23 30 652
				
Blue pipet tip "E", volumes 100 – 1000 μ l, for all commonly used pipets	bag 1 x 1000	1	1000	21 00 610
	Multiracks 10 x 60	2	600	21 13 612
	Multiracks, sterilized 10 x 60	2	600	21 53 612
	MultiTray® 16 x 60	3	960	21 30 612
				
Colorless pipet tip "E", volumes 100 – 1000 μ l, for all commonly used pipets	bag 1 x 1000	1	1000	24 00 610
	Multiracks 10 x 60	2	600	24 13 612
	Multiracks, sterilized 10 x 60	2	600	24 53 612
	MultiTray® 16 x 60	3	960	24 30 612
				
Pipet tip "MLA", volumes 100 – 1000 μ l, for MLA pipets	bag 1 x 1000	1	1000	25 00 150
				

1



2



3



ratiolab® Pipet Tips



Volume Range µl	Packaging	Quantity per Pack	Order No.
Pipet Tip Dr. Lange, volumes 100 – 1000 µl, for Pipets Dr. Lange	bag 1 x 1000	1	1000 25 00 130
			
Pipet Tip "Oxford", volumes 250 – 1000 µl, for Pipets Oxford	bag 1 x 1000	1	1000 25 00 120
			
Colorless pipet tip "ES", volumes 500 – 2500 µl, for Pipets Eppendorf® Reference® and Socorex® Calibra	bag 1 x 250	1	250 25 00 180
			
Pipet Tip "MSB", volumes 200 – 1500 µl, for Pipets Thermo Scientific Multistep®	bag 1 x 400 bag 1 x 1000	1	400 1000 24 00 682 24 00 684
			
Pipet Tip "Finntip", volumes 1000 – 5000 µl, for Pipets Thermo Scientific Finntip F1 and F2, Pipets Dr. Lange	collapsible box 1 x 75 bag 1 x 1000 bag 1 x 3000 bag 1 x 500 Rack 1 x 50	4 1 1 1 5	75 1000 3000 500 1 24 00 620 24 00 622 24 00 623 24 00 624 24 10 620
			
Pipet Tip "Makro", volumes 1000 – 5000 µl, for Pipets Gilson® Pipetman®/Neo	bag 1 x 250 Racks 1 x 50	1 5	250 1 24 00 630 24 10 630
			
Pipet Tip "Makro II", volumes 1000 – 5000 µl, for Pipets Biohit® proline	bag 1 x 300 Rack 1 x 50	1 5	300 1 24 00 650 24 10 650
			
Pipet Tip "Finntip", volumes 2000 – 10000 µl, for Pipets Thermo Scientific Finntip F1 and F2	bag 1 x 100 Rack 1 x 25	1 5	100 1 24 00 640 24 10 640
			

1



4



5



ratiolab® aeroject® Pipet Tips



ratiolab® aeroject® tips – Pipet Tips with Aerosol Barrier

Pipet tips with special filters, to effectively prevent the pipettor shaft from contamination with aerosols and liquids to be sucked into the pipettor.

- sterilized
- certified RNase- and DNase-free
- pipet tips and aerosol filters made of ultra-hydrophobic PE-HD
- minimized retention due to special surface treatment
- perfect and tight fit on all major pipettor brands
- aeroject® 10 µl xl with extended length for operation with narrow vessels and reduced risk of cross-contamination
- packed in plastic racks with hinged lids
- 10 to 200 µl tips packed acc. to 8 x 12 micro test plate footprint
- 100 – 1000 µL in 6 x 10 format

Volume Range µl	Packaging	Quantity per Pack	Order No.
Pipet Tip aeroject® tips xl, 0,1 – 10 µl, for all commonly used pipets	Racks 10 x 96	960	17 60 010
			
Pipet Tip aeroject® tips, 1 – 20 µl, for all commonly used pipets	Racks 10 x 96	960	17 60 020
			
Pipet Tip aeroject® tips, 1 – 100 µl, for all commonly used pipets	Racks 10 x 96	960	17 60 100
			
Pipet Tip aeroject® tips, 1 – 200 µl, for all commonly used pipets	Racks 10 x 96	960	17 60 200
			
Pipet Tip aeroject® tips, 100 – 1000 µl, for all commonly used pipets	Racks 16 x 60	960	17 61 000
			

Serological Pipets

31 01 011



31 02 011



31 05 011



31 05 013



31 050 14



31 10 011



31 100 13



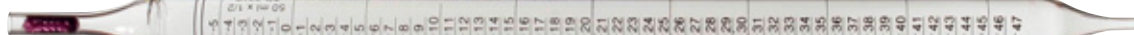
31 10 014



31 25 011



31 50 011



Serological Pipets

Glass-clear polystyrene.

- free from pyrogen, sterile, individually packed
- weldless and from one mold – hence more accurate and stable and with minimal residual wetting
- permanent black-embossed graduations
- with color-coded cotton-wool plug for convenient identification, standard color code
- negative graduation for additional capacity
- 5, 10 and 25 ml pipets with scales for dispensed and the residual volumes

Positive Volume ml	Negative Volume ml	Graduation ml	Sterile	Quantity per Pack	Order No.
1	0.3	0.01	■	500	31 01 011
1.1	–	0.5 – 1 – 1.1	■	500	31 01 012
2	0.4	0.02	■	500	31 02 011
2.2	–	0.5 – 1 – 2 – 2.1 – 2.2	■	500	31 02 012
5	3	0.1	■	250	31 05 011
5 short	3	0.1	■	200	31 05 013
5 wide tip	3	0.1	■	250	31 05 014
10	3	0.1	■	200	31 10 011
10 short	3	0.1	■	100	31 10 013
10 wide tip	8	0.2	■	200	31 10 014
25	2.6	0.2	■	100	31 25 011
50	9	0.5	■	200	31 50 011

Pipetting Aids

ratiolab® Accupetta Electronic Pipetting Aid

- can fill 25 ml pipet in under 4 seconds
- safety valve and hydrophobic filters provide double protection against fluid penetration
- two different speed modes – high & low along with gravity drain
- the pump speed can also be fine-tuned by varying finger pressure on operating knobs for better control of speed
- cadmium-free environment-friendly NiMH batteries
- intelligent charger prevents over-charging / heating of batteries
- low battery indicator, power 2 x 1.2 V / 1000 mAh
- battery service life: 8 hours continuous use
- battery charging time: 2 – 3 hours
- volumetric range: plastic or glass pipets from 0.1 ml to 200 ml

Product	Quantity per Pack	Order No.
ratiolab® Accupetta	1	32 00 300
Spare silicone pipet adapter	1	32 00 301
Spare filter hydrophobic, non-sterile, 0.2 µm	1	32 00 302
Spare filter hydrophobic, non-sterile, 0.45 µm	1	32 00 303
Battery for Accupetta, set of 2	1	32 00 306
Battery charger for Accupetta	1	32 00 309
Adapter for battery charger	1	32 00 311
Wall mount for Accupetta	1	32 00 312



Pasteur-Plast Pipets

Pasteur-plast pipets

Pasteur-plast pipets render liquid handling simple and safe. Cross-contamination and carry-over simply cannot occur so that tedious clean-ups are unnecessary. In addition, there is no danger of glass breakage with the resulting danger of infectious material escaping. The pipets are made of transparent polyethylene. They are inert to biological fluids and most acids. The low affinity of the surface reduces the loss of cells and valuable proteins through binding.

- soft, elastic bulb
- unbreakable – thus reduced risk of glass injury
- burr-free orifice for neat, clean and precise dispensing
- graduated Pasteur-plast pipets with clearly visible embossed graduations
- sterile Pasteur-plast pipets are gas-sterilized and individually packaged
- made of PE-HD

26 00 145



26 00 155



26 00 171
26 55 171



26 00 181
26 55 181



26 00 260



26 00 160



26 00 120
26 55 120



Volume ml	Graduation	Length mm	Drop Volume µl	Drops per ml	Sterilized	Quantity per Pack	Order No.
0.1		84				1000	26 00 260
0.2		130	30	33		500	26 00 145
1.0		104	20	50		400	26 00 155
1.0	■	150	33	30		500	26 00 171
1.0	■	150	33	30	■	500	26 55 171
1.0 capillary	■	144	14	70		500	26 00 181
1.0 capillary	■	144	14	70	■	500	26 55 181
1.2		63	40	25		500	26 00 160
1.5		230	45	22		400	26 00 120
1.5		230	45	22	■	250	26 55 120

Pasteur-Plast Pipets

26 00 135



26 00 131



26 00 111

26 55 111



26 00 151

26 55 151



26 00 216



26 00 190



26 00 195



Volume ml	Graduation	Length mm	Drop Volume μ l	Drops per ml	Sterilized	Quantity per Pack	Order No.
2.0	■	155	45	22		500	26 00 135
2.5	■	150	30	33		500	26 00 131
3.0 Makro	■	155	40	25		500	26 00 111
3.0 Makro	■	155	40	25	■	500	26 55 111
3.0 Mikro		155	33	30		500	26 00 151
3.0 Mikro		155	33	30	■	500	26 55 151
4.0		150	40	25		500	26 00 216
10		170	56	18		200	26 00 190
10		300	45	22		100	26 00 195

ratiolab® Dispenser Tips and Dispenser



ratiolab® Dispenser Tips

CE IVD

For serial pipettings.
Dispenser-Tips fit onto ratiolab® Dispetta and Eppendorf Multipette® 4780.
Adapters for 25 ml and 50 ml Dispenser-Tips must be ordered separately.

Volume ml	Description	Quantity per Pack	Order No.
0.5	non-sterile	100	29 00 101
1.25	non-sterile	100	29 00 102
2.5	non-sterile	100	29 00 103
5.0	non-sterile	100	29 00 104
12.5	non-sterile	100	29 00 105
25	non-sterile	50	29 00 109
50	non-sterile	25	29 00 106
Adapter	non-sterile	10	29 00 107
0.5	sterile, individually packed	100	29 10 101
1.25	sterile, individually packed	100	29 10 102
2.5	sterile, individually packed	100	29 10 103
5.0	sterile, individually packed	100	29 10 104
12.5	sterile, individually packed	100	29 10 105
25	sterile, individually packed	25	29 10 109
50	sterile, individually packed	25	29 10 106
Adapter	sterile, individually packed	5	29 10 107

ratiolab® Dispetta Pipettor for Serial Dispensing

CE IVD

Convenient and robust instrument for serial dispensing with Dispenser Tips. Five volume settings combined with seven Dispenser Tip sizes result in 35 different volumes from 10 µl to 5 ml. The Dispenser Tip is filled similar to a syringe. Step-by-step dispensing is possible by pressing the dispenser button.

- ergonomic design and light weight for convenient handling
- smooth and fatigue-free operation even with long series
- precise and convenient volume setting
- clearly visible volume adjustment, optimized readability
- table with volume scale fixed directly onto the instrument
- precise gear mechanism for accurate and reproducible pipettings
- safe, rapid and easy exchange of Dispenser Tips
- maintenance-free
- long life due to robust design

Product	Quantity per Pack	Order No.
ratiolab® Dispetta	1	29 80 200

Dispenser Tips and Dispenser



PD-Dispenser-Tips with Typ-Code

CE IVD

For serial pipettings.

The volume of the Dispenser Tip is automatically identified by the pipetting device (Handy-Step® electronic only). PD-Dispenser Tips fit onto ratiolab® Dispetta, Brand Handy-Step® and Handy-Step® electronic and Eppendorf Multipette® 4780. Adapters for 25 ml and 50 ml Dispenser Tips must be ordered separately.

Volume ml	Description	Quantity per Pack	Order No.
0.5	non-sterile	100	29 00 201
1.25	non-sterile	100	29 00 202
2.5	non-sterile	100	29 00 203
5.0	non-sterile	100	29 00 204
12.5	non-sterile	100	29 00 205
25	non-sterile	50	29 00 209
50	non-sterile	25	29 00 206
Adapter	non-sterile	10	29 00 207
0.5	sterile, individually packed	100	29 10 201
1.25	sterile, individually packed	100	29 10 202
2.5	sterile, individually packed	100	29 10 203
5.0	sterile, individually packed	100	29 10 204
12.5	sterile, individually packed	100	29 10 205
25	sterile, individually packed	25	29 10 209
50	sterile, individually packed	25	29 10 206
Adapter	sterile, individually packed	5	29 10 207

HandyStep® electronic Pipettor for Serial Dispensing

CE

Hand-held dispenser with micro processor-controlled precision.

For serial dispensing, most convenient to operate.

- automatic tip size registration when using PD-Tips with type code
- fits almost any dispenser tips
- variable volume adjustment from 1 µl to 50 ml
- digital LCD display for volume, number of steps, operation speed, mode and battery charging level
- three operation modes: dispensing, auto dispensing, pipetting
- in the auto dispensing mode the processor calculates the mean operation frequency from three manually operated dispensings and continues the operation automatically
- three operation speeds can be chosen for liquids with different viscosity and density
- easy programming by an intuitive guided menu
- no out-of-function intervals due to exchangeable batteries, which can be charged by the instrument or separately
- quality-controlled and individually certified, serial number included

Scope of delivery: HandyStep® with NiMH battery, charger with dispenser stand and power supply 230 V/50 Hz.

Product	Quantity per Pack	Order No.
HandyStep® Handdispenser complete	1	47 50 002
power supply 230 V/50 Hz	1	47 50 003
charger stand without power supply	1	47 50 004
NiMH-battery	1	47 50 005

Labware



Think Development and production of customized products



Liquid handling products



Labware for general lab applications



Life sciences products for microbiology and biotechnology



Cryo products for deep-freeze applications

ratiolab® Cuvets

Disposable cuvetts have long replaced cuvetts once normally made of glass. New plastics coupled with modern methods of production allow photometric measurement well into the UV range.

Ultra-precision molds with several cavities – one per cuvette – are used for producing ratiolab® Q-VETTES and CUVETTES under controlled room conditions. Thus, in any one injection molding run several cuvetts are produced

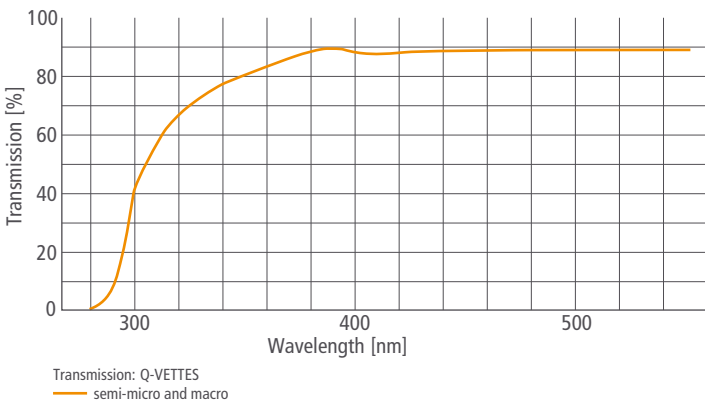
simultaneously. In order to prevent deviations in extinction coefficient values from occurring in any one run due to increased stray light, the cuvetts are automatically sorted according to their numbered cavities of origin. Each package contains only cuvetts that have been produced in any one cavity. The corresponding cavity number is noted on each package. Thus, even for extensive analyses, the same cuvetts can be used.



ratiolab® Q-VETTES

The new generation of cuvetts with clearly improved photometric properties. The new optimized form and the small wall thickness of the cuvetts provides increased heat transfer resulting in more constant sample temperatures during photometric measurements.

- glass-clear polystyrene (PS)
- applicable wavelength range 340 to 900 nm
- very low variation of extinction values
- excellent optical transmission range
- cavity-sorted production
- path length 10 mm
- outer dimensions 12.5 x 12.5 x 45 mm
- supplied in practical polystyrene boxes: 100 cuvetts in a polystyrene box with closable lid



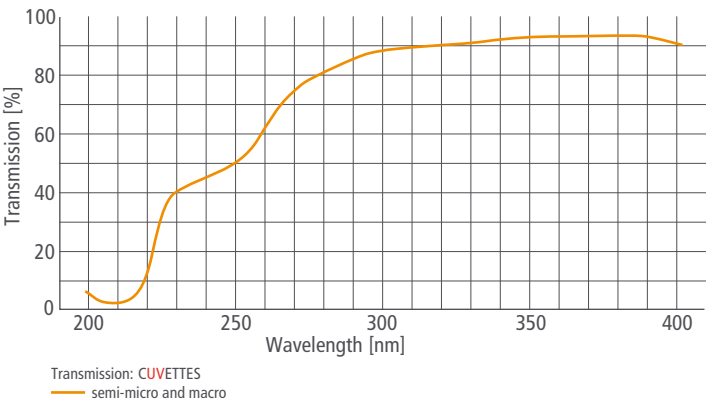
Product	Description	Volume ml	Packaging	Quantity per Pack	Order No.
ratiolab® Q-VETTES semi-micro	PS	1.6	styrofoam racks 10 x 100	1000	27 12 120
ratiolab® Q-VETTES macro	PS	4.0	styrofoam racks 10 x 100	1000	27 11 110



ratiolab® CUVETTES

For photometric measurements even in the uv-range.
Due to the special plastic material and the excellent manufacturing process the cuvettes can also be used in photometric ranges reserved for uv-glass cuvettes in the past.

- applicable wavelength range 220 to 900 nm
- very low variation of extinction values
- excellent optical transmission range
- cavity-sorted production
- path length 10 mm
- outer dimensions 12.5 x 12.5 x 45 mm
- supplied in practical styrofoam racks: 100 cuvettes in a styrofoam box with a re-sealable cover



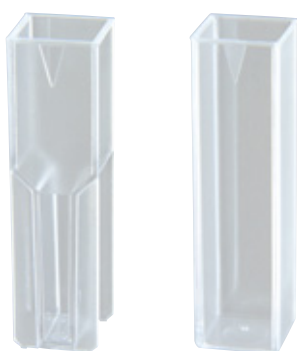
Product	Description	Volume ml	Packaging	Quantity per Pack	Order No.
ratiolab® CUVETTES semi-micro	UV	1,6	styrofoam racks 1 x 100	100	27 22 120
ratiolab® CUVETTES macro	UV	4,0	styrofoam racks 1 x 100	100	27 22 110



ratiolab® Cuvets of PMMA

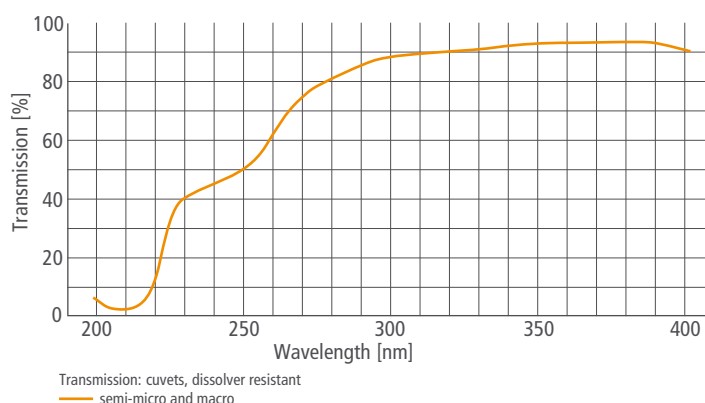
- cuvettes of polymethylmethacrylate (PMMA)
- applicable wavelength range 300 to 900 nm
- very low variation of extinction values
- excellent optical transmission range
- path length 10 mm
- outer dimensions 12.5 x 12.5 x 45 mm
- supplied in practical styrofoam racks: 100 cuvettes in a styrofoam box with a re-sealable cover

Product	Description	Volume ml	Packaging	Quantity per Pack	Order No.
ratiolab® semi-micro cuvettes	PMMA	1.6	styrofoam racks 10 x 100	1000	28 10 100
ratiolab® macro cuvettes	PMMA	4.0	styrofoam racks 10 x 100	1000	28 11 110



ratiolab® Cuvets, Solvent Resistant

- resistant against polar solvents
- applicable wavelength range 220 to 900 nm
- very low variation of extinction values
- excellent optical transmission range
- cavity-sorted production
- path length 10 mm
- outer dimensions 12.5 x 12.5 x 45 mm
- supplied in practical styrofoam racks: 100 cuvettes in a styrofoam box with a re-sealable cover



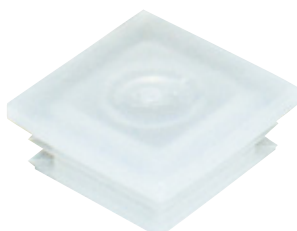
Product	Description	Volume ml	Packaging	Quantity per Pack	Order No.
ratiolab® semi-micro cuvettes	solvent resistant	1.6	styrofoam racks 1 x 100	100	27 25 120
ratiolab® macro cuvettes	solvent resistant	4.0	styrofoam racks 1 x 100	100	27 25 110



ratiolab® Macro Special Cuvets

- with 4 optical windows
- very low variation of extinction values
- excellent optical transmission range
- path length 10 mm
- outer dimensions 12.5 x 12.5 x 45 mm
- supplied in practical styrofoam racks: 100 cuvettes in a styrofoam box with a re-sealable cover

Product	Description	Volume ml	Packaging	Quantity per Pack	Order No.
macro-special-cuvets	PS	4,0	styrofoam racks 5 x 100	500	27 13 010



Stopper for Cuvets

Polypropylene

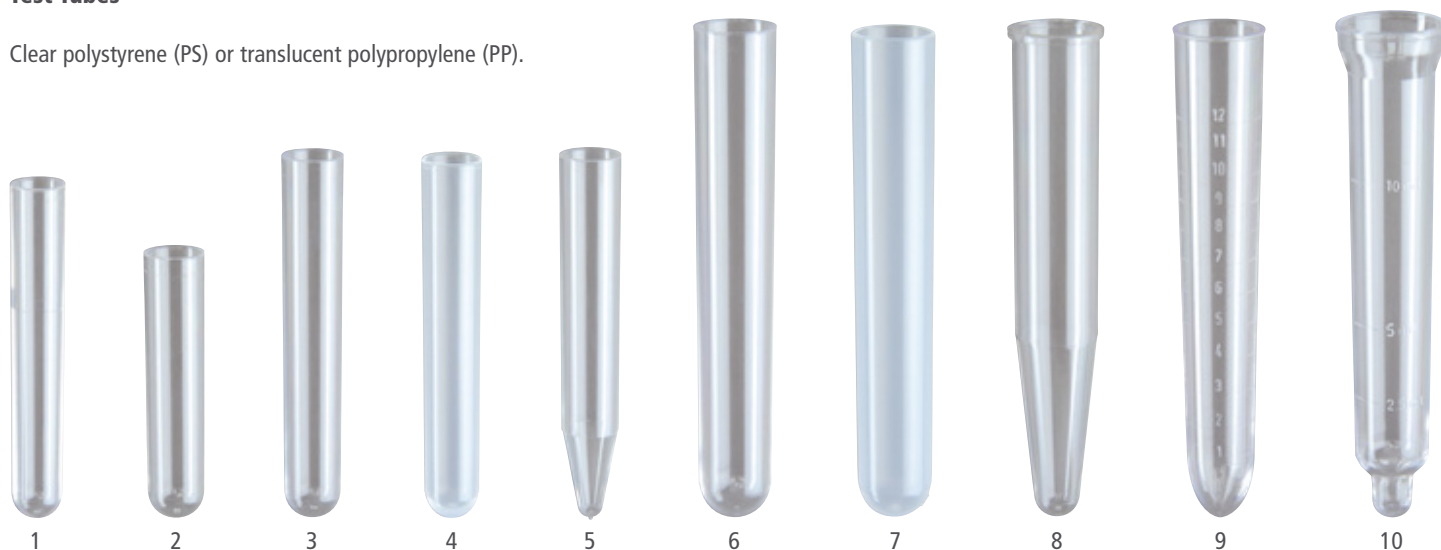
- for all ratiolab® cuvettes
- packed in 1 plastic bag of 1000 pieces

Type	Packaging	Quantity per Pack	Order No.
Stoppers for cuvettes	1 x 1000	1000	28 12 011

Test Tubes and Stoppers

Test Tubes

Clear polystyrene (PS) or translucent polypropylene (PP).



Product	Fig. No.	Ø x H mm	Material	Volume ml	Bottom	Packaging	Quantity per Pack	Order No.
RIA tubes	1	11 x 70	PS	4	round	bags 1 x 1000	1000	35 14 040
coagulometer tubes	2	12 x 55	PS	4	round	bags 1 x 1000	1000	30 14 030
test tubes	3	12 x 75	PS	5	round	bags 1 x 1000	1000	35 14 030
test tubes	4	12 x 75	PP	5	round	bags 1 x 1000	1000	35 14 031
test tubes	5	12 x 75	PS	4.5	conical	bags 1 x 1000	1000	37 14 040
test tubes	6	16 x 100	PS	12	round	bags 1 x 1000	1000	37 14 010
test tubes	7	16 x 100	PP	12	round	bags 1 x 1000	1000	38 14 010
test tubes	8	17 x 103	PS	12	conical	bags 1 x 1000	1000	37 14 020
test tubes	9	18 x 105	PS	12	conical	bags 2 x 500	1000	35 20 000
test tubes	10	18 x 115	PS	12	round	bags 1 x 1000	1000	36 22 000

Stoppers, Ø 11 – 12 mm

Polypropylene (PP).

- very tight seal due to 2 sealing rings
- available in natural and 4 more colors



Color	Packaging	Quantity per Pack	Order No.
natural	bags 1 x 1000	1000	35 14 900
blue	bags 1 x 1000	1000	35 14 90B
green	bags 1 x 1000	1000	35 14 90G
red	bags 1 x 1000	1000	35 14 90R
yellow	bags 1 x 1000	1000	35 14 90Y

Stoppers, Ø 16 – 17 mm

Polypropylene (PP).

- very tight seal due to 2 sealing rings
- available in natural and 4 more colors



Color	Packaging	Quantity per Pack	Order No.
natural	bags 1 x 1000	1000	39 14 900
blue	bags 1 x 1000	1000	39 14 90B
green	bags 1 x 1000	1000	39 14 90G
red	bags 1 x 1000	1000	39 14 90R
yellow	bags 1 x 1000	1000	39 14 90Y

Analysis Beakers and Scintillation Vessels

Analysis Beakers, PS

Clear polystyrene.

- high-precision design for use with robotic analytical systems



Product	Fig. No.	Volume ml	Packaging	Quantity per Pack	Order No.
analysis beakers Technicon T1	1	2.0	1 x 1000	1000	57 00 110
analysis beakers Technicon T2	2	3.5	1 x 1000	1000	57 00 120
analysis beakers Gemsac G1	3	0.5	1 x 1000	1000	57 00 200
analysis beakers Hitachi H1	4	3.0	1 x 1000	1000	57 00 401
analysis beakers Kodak	5	1.5	1 x 1000	1000	57 00 700
beakers for flame photometers	6	6.0	1 x 1000	1000	57 00 660



Scintillation Vessels

Natural polyethylene (PE-LD).

- high-precision design for use with robotic analytical systems
- insert tubes with special leakproof cap
- convenient opening and closing

Product	Fig. No.	Volume ml	Ø x H mm	Packaging	Quantity per Pack	Order No.
scintillation bottles with cap	1	20	27 x 60	carton 1 x 1000	1000	58 10 100
caps for scintillation bottles	—	—	—	bag 1 x 1000	1000	58 10 10D
insert tubes with caps for scintillation bottles	2	5	14 x 56	carton 2 x 1000	2000	58 10 110
caps for insert tubes	—	—	—	bag 1 x 1000	1000	58 10 11D

Microcentrifuge Tubes and Micro Centrifuge

Microcentrifuge Tubes, PP

Translucent polypropylene (PP), natural color or different colors for comfortable identification.

- tight sealing cap
- safe and easy to be opened and closed



Volume ml	Fig. No.	Cap	Color	Packaging	Quantity per Pack	Order No.
0.4 Beckman	1	■	natural	1 x 1000	1000	56 15 400
0.5	2	■	natural	1 x 1000	1000	56 15 030
1.5	3	■	natural	1 x 1000	1000	56 15 000
1.5	–	■	yellow	1 x 1000	1000	56 15 001
1.5	–	■	green	1 x 1000	1000	56 15 002
1.5	–	■	red	1 x 1000	1000	56 15 003
1.5	–	■	blue	1 x 1000	1000	56 15 004
1.5	4	■	natural	1 x 1000	1000	56 15 020
2.0	5	■	natural	1 x 1000	1000	56 15 101
2.0	–	■	natural	1 x 1000	1000	56 15 102



Micro Centrifuge for PCR Strips and Microcentrifuge Tubes

Space- and energy-saving micro centrifuge with adequate power for routine centrifugations.

- for two PCR strips of 8 tubes, 0.2 ml or 8 microcentrifuge tubes 0.5 to 2.0 ml
- speed 6600/min, RCA 2200 x g
- lid must be closed for operation mode
- safety: the lid can only be opened when the rotor is not rotating
- rapid start and stop within seconds
- power supply 230 V, 50 Hz, 10 W
- diameter 160 x 161,5 mm, height 140 mm, weight 900 g
- supplied with two rotors for two PCR strips of 8 tubes, 0.2 ml and 8 microcentrifuge tubes 0.5 to 2.0 ml

Product	Quantity per Pack	Order No.
Micro Centrifuge with two rotors	1	71 00 006

Centrifuge Tubes and Racks



Centrifuge Tubes, 15 and 50 ml

Polypropylene (PP).

- with conical bottom or stand alone
- with printed graduations and lettering
- available sterilized or unsterilized
- with red screw cap
- centrifugable up to approx. 3000 g

Volume ml	Bottom	Sterilized	Ø x H mm	Packaging	Quantity per Pack	Order No.
15	conical		17 x 120	cardboard box 1 x 750	750	33 00 005
15	conical	■	17 x 120	cardboard box 1 x 750	750	33 00 006
50	conical		30 x 115	cardboard box 1 x 300	300	33 00 001
50	conical	■	30 x 115	cardboard box 1 x 300	300	33 00 002
50	self-standing		30 x 115	cardboard box 1 x 250	250	33 00 003
50	self-standing	■	30 x 115	cardboard box 1 x 250	250	33 00 004



Polypropylene (PP) rack

Ideal for the secure handling of reaction vessels. Space-saving on the laboratory bench due to its narrow form. Practical side grips. Non-slip and stable due to the four rubber studs on the base.

- 5 x 16 wells for 1.5 and 2.0 ml reaction vessels
- autoclavable
- temperature-resistant from –80 to +121 °C
- 225 mm x 65 mm x 28 mm (LxWxH)

For	Positions	Color	Quantity per Pack	Order No.
1.5 – 2.0ml	5x16	blue	5	37 12 005
1.5 – 2.0ml	5x16	green	5	37 12 006
1.5 – 2.0ml	5x16	orange	5	37 12 007
1.5 – 2.0ml	5x16	pink	5	37 12 008
1.5 – 2.0ml	5x16	yellow	5	37 12 009

Cell Counter Vials

Cell Counter Vials

Clear polystyrene (PS). TOA container made of polypropylene (PP).

- high-precision design for use with robotic analytical systems



1



2



3



4

Product	Fig No.	Volume ml	Material	Packaging	Quantity per Pack	Order No.
for Coulter® and Hycel® cell counter systems						
Cell-Coun-Tainer 1 with lid	1	25	PS	PS-tray 20 x 50	1000	55 15 010
Cell-Coun-Tainer 1 with lid	1	25	PS	bags 4 x 250	1000	55 15 040
Cell-Coun-Tainer 1 without lid	—	25	PS	bags 4 x 250	1000	55 15 041
lids for Cell-Coun-Tainer 1	—	—	PE	bags 1 x 1.000	1000	55 15 04D
for cell counter systems with cylindrical containers, e.g. Al® and Linson®						
Cell-Coun-Tainer 2 without lid	2	20	PS	bags 1 x 1.000	1000	55 15 051
stoppers for Cell-Coun-Tainer 2, ø 22 mm	—	—	PP	bags 1 x 1.000	1000	55 15 052
Cell-Coun-Tainer 3 with lid	3	13	PS	bags 4 x 500	2000	55 15 060
Cell-Coun-Tainer 3 without lid	—	13	PS	bags 4 x 500	2000	55 15 061
lids for Cell-Coun-Tainer 3	—	—	PE	bags 1 x 1.000	1000	55 15 06D
for TOA® cell counter systems						
Cell counter container "TOA"	4	30	PP	bags 60 x 50	3000	55 15 080



ratiolab® Cleanibag System

All-purpose PE bags with self-adhesive strip for clinical and laboratory use.

- self-adhesive strip, sticks on smooth and clean surfaces (e.g. walls, work benches, beds, bedside tables)
- residue-free on removable

On request: other sizes, including for intensive care, bags with custom-made imprint

B x L mm	Packaging	Quantity per Pack	Order No.
200 x 300	carton 1 x 1000	1000	70 00 250
300 x 300	carton 1 x 1000	1000	70 00 260
300 x 450	carton 1 x 1000	1000	70 00 270

ratiolab® Waste Disposal Bags



ratiolab® Waste Disposal Bag, BIOHAZARD Quality

Autoclavable disposable waste bag of very strong PP-film with a broad seam at the bottom. For the sterilization and disposal of hazardous and contaminated labware.

- with BIOHAZARD sticker and safety imprint in English – French – German languages
- autoclavable at 134 °C, for autoclaving, the bag must not be completely closed

W x L mm	Volume approx. l	Film Thickness	Packaging	Quantity per Pack	Order No.
300 x 500	8	50 µm	carton 1 x 500	500	70 02 100
400 x 780	38	50 µm	carton 1 x 500	500	70 02 150
600 x 800	60	50 µm	carton 1 x 500	500	70 02 200
700 x 1100	110	50 µm	carton 1 x 350	350	70 02 300

ratiolab® Waste Disposal Bag, Standard

Bags of very strong PP-film with a broad seam at the bottom. For the disposal of contaminated labware.

- autoclavable at 134 °C, for autoclaving, the bag must not be completely closed
- practicable bench-top stand, plastic-coated, with 3 rubber feet, for bag size 200 x 300 mm



W x L mm	Volume approx. l	Film Thickness	Packaging	Quantity per Pack	Order No.
200 x 300	2.5	50 µm	dispenser 1 x 100	100	70 01 000
300 x 500	8	50 µm	cardboard box 1 x 500	500	70 01 100
400 x 780	38	50 µm	cardboard box 1 x 500	500	70 01 150
600 x 800	60	50 µm	cardboard box 1 x 500	500	70 01 200
600 x 800	60	50 µm	cardboard box 1 x 100	100	70 01 210
600 x 800	60	100 µm	cardboard box 1 x 125	125	70 01 212
700 x 1.100	110	50 µm	cardboard box 1 x 350	350	70 01 300
700 x 1.100	110	50 µm	cardboard box 1 x 75	75	70 01 310
700 x 1.100	110	100 µm	cardboard box 1 x 75	75	70 01 311
bench-top stand for waste disposal bags 200 x 300 mm				1	70 01 400
set consisting of bench-top stand and 100 waste disposal bags 200 x 300 mm				1	70 01 401

ratiolab® Waste Disposal Bag, High Transparency

Bags of very strong PP-film with a broad seam at the bottom. For the disposal of contaminated labware.

- autoclavable at 121 °C, for autoclaving, the bag must not be completely closed
- practicable bench-top stand, plastic-coated, with 3 rubber feet, for bag size 200 x 300 mm



W x L mm	Volume approx. l	Film Thickness	Packaging	Quantity per Pack	Order No.
200 x 300	2.5	50 µm	dispenser 1 x 100	100	70 01 005
300 x 500	8	50 µm	cardboard box 1 x 500	500	70 01 105
400 x 780	38	50 µm	cardboard box 1 x 500	500	70 01 155
600 x 800	60	50 µm	cardboard box 1 x 500	500	70 01 205
700 x 1.100	110	50 µm	cardboard box 1 x 350	350	70 01 305
bench-top stand for waste disposal bags 200 x 300 mm				1	70 01 400
set consisting of bench-top stand and 100 waste disposal bags 200 x 300 mm				1	70 01 405

ratiolab® Uri-Lab Multi-Purpose Beaker System



ratiolab® multi-purpose Uri-Lab beakers

Glass-clear polystyrene (PS).

- volume 100 ml
- self-adhesive film cover, leakproof and easily labelled
- comfortable sampling, the film cover can be pierced with pipet tips
- practicable packaging, 50 multi-purpose beakers are stacked in PE-bags for use with the Uri-Lab Beaker Dispenser

Product	Packaging	Quantity per Pack	Order No.
ratiolab® multi-purpose beakers Uri-Lab with cover	bags 20 x 50	1000	59 21 170
ratiolab® multi-purpose beakers Uri-Lab without cover	bags 20 x 50	1000	59 21 171
self-adhesive film covers for beakers Uri-Lab	bags 1 x 500	500	59 21 160



ratiolab® Beaker Tray for Multi-Purpose Beakers Uri-Lab

Robust plastics with easy-to-clean surface.

- for 10 ratiolab® multi-purpose beakers Uri-Lab

Product	Quantity per Pack	Order No.
ratiolab® beaker tray Uri-Lab	1	59 21 200



ratiolab® Beaker Dispenser for Multi-Purpose Beakers Uri-Lab

Robust plastics with easy-to-clean surface.

- for 50 ratiolab® multi-purpose beakers Uri-Lab
- for individual beaker dispensing
- glass-clear dispenser door for refills makes stock visible
- separate side box for stocking of self-adhesive film covers

Product	Quantity per Pack	Order No.
ratiolab® beaker dispenser Uri-Lab	1	59 21 190

Multi-Purpose Beakers and Multi-Purpose Bottles



Multi-purpose beakers with screw-caps

Polypropylene (PP).

- with red screw-cap
- volume 125 ml, graduation 25 ml
- supplied in non-sterile or sterile, individually packed

Product	Packaging	Quantity per Pack	Order No.
Multi-purpose beakers with screw-caps, non-sterile	cardboard box 1 x 500	500	59 21 182
Multi-purpose beakers with screw-caps, sterile	bag 250 x 1	250	59 21 183



Multi-purpose bottles

Polyethylene, blue translucent (PE).

- lid with nonwoven fabric liner
- with graduations, light protection
- wide neck diameter 80 mm
- 2 sizes, 2 and 2.5 l

Product	Packaging	Quantity per Pack	Order No.
Multi-purpose bottles 2 l with white inscription	cardboard box 1 x 72	72	59 22 200
Multi-purpose bottles 2.5 l with self-adhesive labels	cardboard box 1 x 60	60	59 22 250
lids for Multi-purpose bottles 2 and 2.5 l	bag 1 x 100	100	59 22 204
self-adhesive labels for Multi-purpose bottles 2.5 l	cardboard box 1 x 100	100	59 22 253

Petri Dishes, Inoculating Loops and Needles, Incubator



Petri Dishes

Transparent polystyrene (PS).

Ø x H mm	Description	Packaging	Quantity per Pack	Order No.
55 x 14	with vents	carton 1 x 1.420	1420	90 50 006
55 x 14.6	with vents, sterilized	carton 1 x 1.420	1420	90 50 106
90 x 14	with vents	carton 1 x 600	600	90 50 000
90 x 14	with vents, sterilized	carton 1 x 600	600	90 50 100
140 x 15	with vents	carton 1 x 220	220	90 50 004
140 x 15	with vents, sterilized	carton 1 x 220	220	90 50 104
65 x 15	with compartments	carton 1 x 720	720	90 50 005
65 x 15	with compartments, sterilized	carton 1 x 720	720	90 50 105



Inoculating Loops, Needles, Spatulas

- color-coded
- gamma-sterile
- hexagonal handle for safe handling
- sterile, individually packed in easy to open peel-packs

Product	Packaging	Quantity per Pack	Order No.
1 µl inoculating loops	4 boxes of 50 peel-packs of 10	2000	70 20 100
10 µl inoculating loops	4 boxes of 50 peel-packs of 10	2000	70 20 200



ratiolab® thermocult Incubator

Compact incubator for bacteriology. Fixed temperature setting at $35 \pm 2^\circ\text{C}$. With built-in control thermometer. Glass-clear door for visual control. The incubator can be placed on work benches or be mounted on walls or underneath cabinets.

- inside size (W x D x H): 210 x 145 x 110 mm, for up to 20 tissue cultures or 8 petri dishes
- outside size (W x D x H): 300 x 170 x 150 mm
- weight: approx. 1.3 kg, power: 220 V, 30 W

Product	Quantity per Pack	Order No.
ratiolab® thermocult	1	90 22 000
shelf	1	90 22 001

Ear Tips, Ear Funnels



Ear Tips, Ear Funnels

Hygienic and safe disposable products. Once attached, they remain fixed on most commonly used otoscopes. Ergonomic and smoothly formed. No sharp edges.

Ear Tips

Made of high-quality polystyrene (PS).

- for Heine K180®, Mini 3000®, Beta 200®, KaWe Piccolight C®, Riester ri-mini® otoscopes
- high precision
- the hygienic disposable alternative

Ø mm	Color	Packaging	Quantity per Pack	Order No.
2.5	black	bags 1 x 50	20 x 50	10 20 340
2.5	black	bags 1 x 500	2 x 500	10 20 350
2.5	black	bags 1 x 1000	1000	10 20 330
2.5	grey	bags 1 x 50	20 x 50	10 20 250
2.5	grey	bags 1 x 500	2 x 500	10 20 260
2.5	grey	bags 1 x 1000	1000	10 20 230
4.0	black	bags 1 x 50	20 x 50	10 20 341
4.0	black	bags 1 x 500	2 x 500	10 20 351
4.0	black	bags 1 x 1000	1000	10 20 331
4.0	grey	bags 1 x 50	20 x 50	10 20 251
4.0	grey	bags 1 x 500	2 x 500	10 20 261
4.0	grey	bags 1 x 1000	1000	10 20 231

Ear Funnels

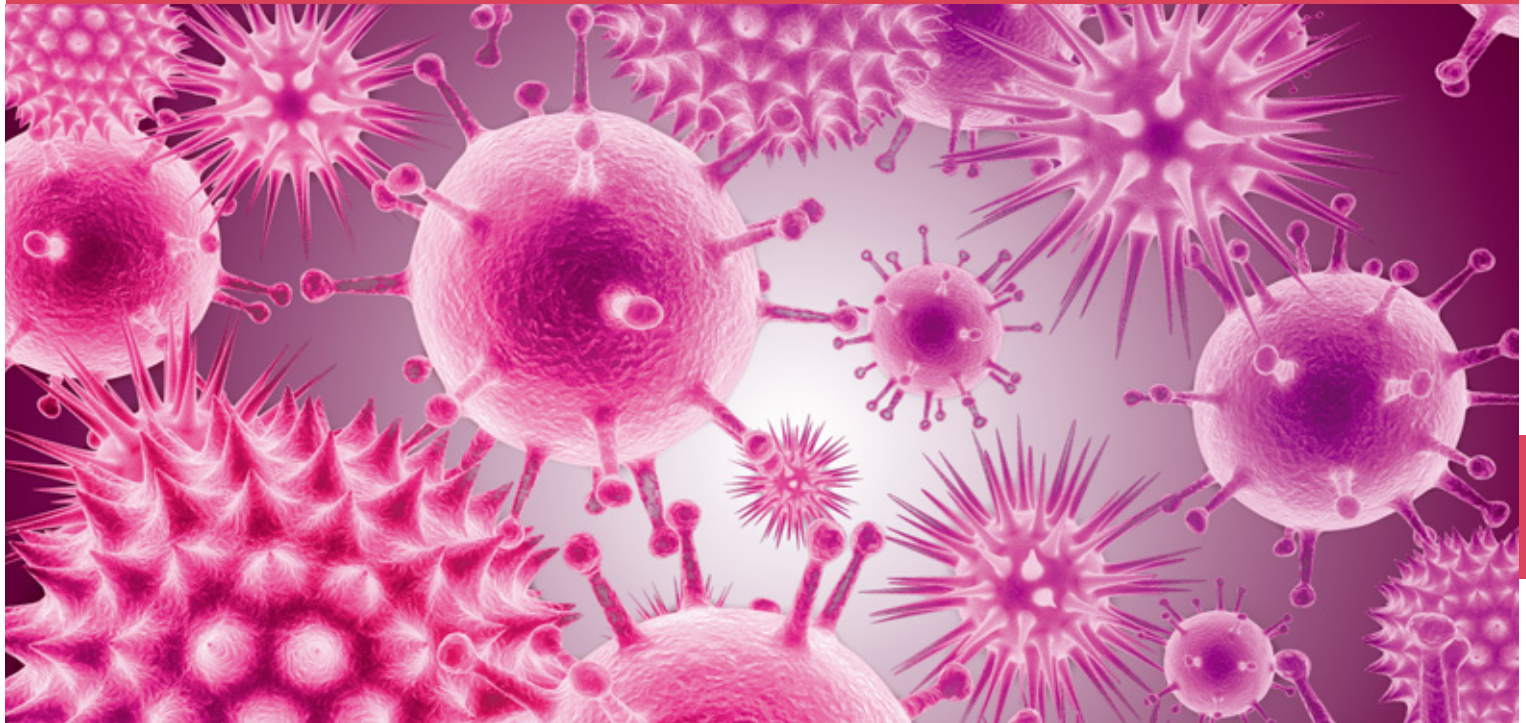
Made of high-quality polystyrene (PS).

- for Heine Beta 100® otoscopes
- high precision
- the hygienic disposable alternative

Ø mm	Color	Packaging	Quantity per Pack	Order No.
2.5	black	bags 1 x 1000	1000	10 20 240
2.5	black	bags 1 x 500	2 x 500	10 20 243
2.5	black	bags 1 x 50	20 x 50	10 20 540
4.0	black	bags 1 x 1000	1000	10 20 241
4.0	black	bags 1 x 500	2 x 500	10 20 242
4.0	black	bags 1 x 50	20 x 50	10 20 541

® registered trade mark

Life sciences



Think Development and production of customized products



Liquid handling products



Labware for general lab applications



Life sciences products for microbiology and biotechnology



Cryo products for deep-freeze applications

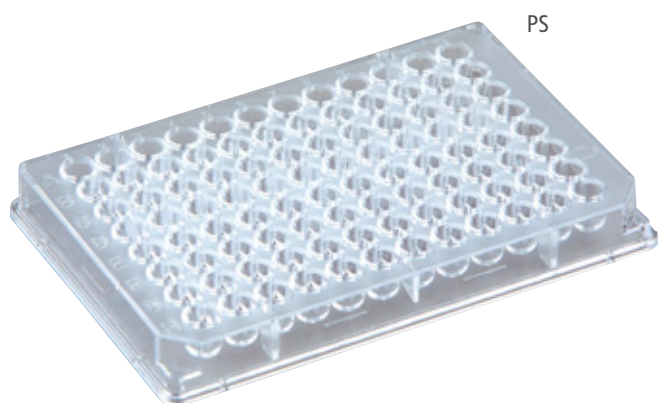
Micro Test Plates



96-Well Micro Test Plates, volume approx. 300 µl

Clear polystyrene (PS) or translucent polypropylene (PP).

- with U-, F-, or V-bottom
- SBS standard micro test plate format
- 8 x 12 wells alphanumerically coded
- wells with raised rims for reduced cross-contamination and effective sealing
- precise design, perfectly shaped for use with automatic systems
- optimum space for precise positioning
- one corner cut away for definite orientation
- space-saving and stackable
- polypropylene plates may be sealed with heat-sealing films without deformation



PS



PP

	Bottom	Material	Sterilized	Packaging	Quantity per Pack	Order No.
	U-bottom	PS		cardboard box 1 x 100	100	60 18 110
	U-bottom	PS		bags 10 x 10	100	60 18 111
	U-bottom	PS	■	individually in bags 100 x 1	100	60 18 113
	U-bottom	PP		cardboard box 1 x 100	100	60 18 120
	U-bottom	PP		bags 10 x 10	100	60 18 121
	U-bottom	PP	■	individually in bags 100 x 1	100	60 18 123
	F-bottom	PS		cardboard box 1 x 100	100	60 18 210
	F-bottom	PS		bags 10 x 10	100	60 18 211
	F-bottom	PS	■	individually in bags 100 x 1	100	60 18 213
	F-bottom	PP		cardboard box 1 x 100	100	60 18 220
	F-bottom	PP		bags 10 x 10	100	60 18 221
	F-bottom	PP	■	individually in bags 100 x 1	100	60 18 223
	V-bottom	PS		cardboard box 1 x 100	100	60 18 310
	V-bottom	PS		bags 10 x 10	100	60 18 311
	V-bottom	PS	■	individually in bags 100 x 1	100	60 18 313
	V-bottom	PP		cardboard box 1 x 100	100	60 18 320
	V-bottom	PP		bags 10 x 10	100	60 18 321
	V-bottom	PP	■	individually in bags 100 x 1	100	60 18 323

Micro Test Plates



96-Well Luminescence Plates, volume approx. 300 µl

Black polypropylene (PP).

- with U-bottom
- SBS standard micro test plate format
- 8 x 12 wells alphanumerically coded
- wells with raised rims for reduced cross-contamination and effective sealing
- precise design, perfectly shaped for use with automatic systems
- optimum space for bar code labels on the side walls
- one corner cut away for precise positioning
- space-saving and stackable

Bottom	Color	Packaging	Quantity per Pack	Order No.
U	black	bags 10 x 10	100	60 18 710



384-Well Micro Test Plates, volume approx. 100 µl

Clear polystyrene (PS).

- with F-bottom
- SBS standard micro test plate format
- 16 x 24 wells alphanumerically coded
- precise design, perfectly shaped for use with automatic systems
- optimum space for bar code labels on the side walls
- one corner cut away for precise positioning
- space-saving and stackable

Bottom	Color	Packaging	Quantity per Pack	Order No.
F	PS	bags 10 x 10	100	60 18 511



Lids for Micro Test Plates

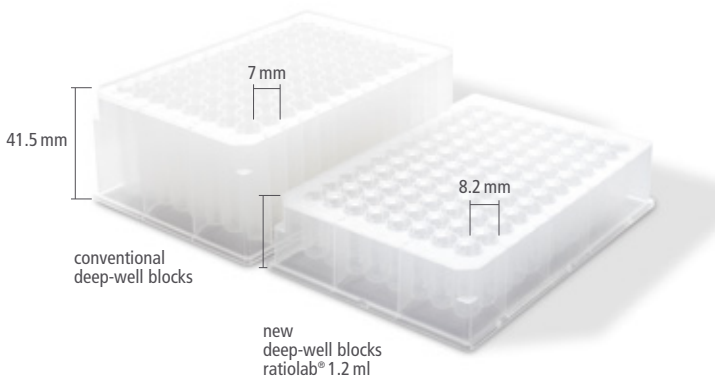
Optional in highly transparent polystyrene (PS) or polypropylene (PP).

Material	sterilized	Packaging	Quantity per Pack	Order No.
PS		cardboard box 1 x 100	100	60 18 403
PS		bags 10 x 10	100	60 18 402
PS		individually in bags 100 x 1	100	60 18 400
PS	■	individually in bags 100 x 1	100	60 18 401
PP		cardboard box 1 x 100	100	60 18 423
PP		bags 10 x 10	100	60 18 422
PP		individually in bags 100 x 1	100	60 18 420
PP	■	individually in bags 100 x 1	100	60 18 421

Deep-Well Blocks

ratilab® low-profile deep-well blocks (96)

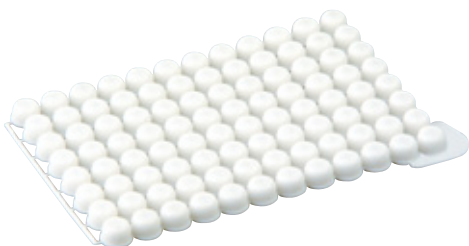
These 1.2 ml low-profile deep-well blocks are ideal for pharmaceuticals, biotechnology and diagnostics. Of the same standard dimensions (Society for Biomolecular Sciences – SBS), they are one-third lower than standard deep-well plates (96). They thus require less space! Requiring some 30 % less space, they help to optimize warehouse space, hence lowering costs – especially for expensive cryo-storage applications.



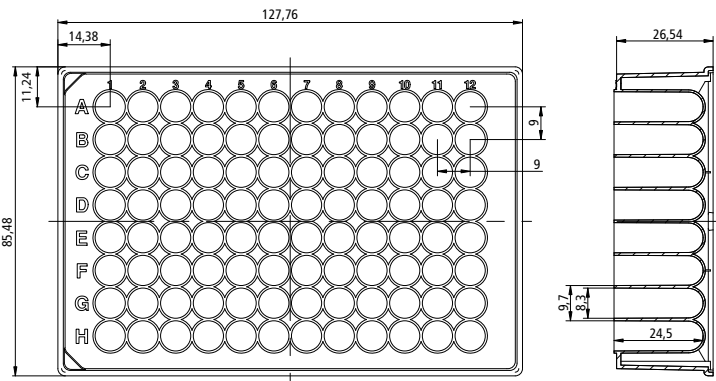
1



2



The cavities are some 20 % larger than conventional plates. Thus, when used with robots, they provide additional security. The chimney form of the wells reliably prevents cross-contamination. Their precise, true-to-size form makes them highly suitable for high-throughput screening (HTS).



Clear polypropylene (PP).

- about half as high as conventional deep-well blocks
- SBS standard micro test plate format
- well with significantly larger cross section
- wells with raised rims for reduced cross-contamination
- improved visual control due to clear polypropylene
- autoclavable at 121 °C, 20 min
- temperature-resistant to –80 °C
- 8 x 12 wells with alphanumeric code in micro test plate format
- optimally sealable
- precise design, for use in automatic pipetting systems for High Throughput Screening (HTS)
- optimum space for bar code labels on the side walls
- space-saving and stackable

Volume per Well, ml		Material	Packaging	Quantity per Pack	Order No.
0.3	1	PP	cardboard box 1 x 100	100	81 01 003
1.2	2	PP	cardboard box 1 x 50	50	81 01 012

Closures for ratilab® 96-Deep-Well-Blocks, 1.2 ml

Made of thermo-plastic elastomer (TPE).

- autoclavable at 121 °C, 20 min

Product	Material	Packaging	Quantity per Pack	Order No.
96-well cover mat	TPE	cardboard box 10x10	100	81 01 101

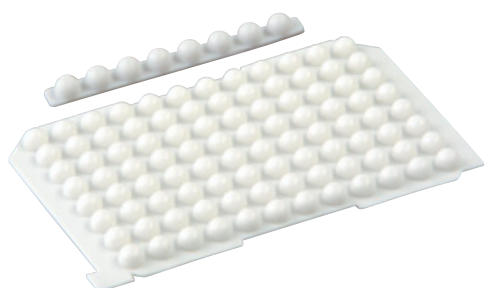
Deep-Well-Blocks

96-Deep-Well-Blocks

Clear polystyrene (PS) or translucent polypropylene (PP).

- SBS standard micro test plate format
- deep-well blocks of PP are autoclavable at 121 °C, 20 min
- 8 x 12 wells, alphanumerically coded, micro test plate format
- precise design, for use in automatic systems for High Throughput Screening (HTS)
- optimum space for bar code labels on the side walls
- space-saving and stackable

Volume per Well, ml	Material	Packaging	Quantity per Pack	Order No.
1.2	PS	bags 10 x 5	50	60 20 111
1.2	PP	bags 10 x 5	50	60 20 121
2.2	PP	bags 10 x 5	50	60 20 221



Closures for 96-Well Deep Well Blocks

Made of thermo-plastic elastomer (TPE) or ethylene vinyl acetate (EVA).

Product	Material	Packaging	Quantity per Pack	Order No.
1.2 ml 8-well-cover strips	TPE	bags 1 x 1.000	1.000	82 00 008
1.2 ml 96-well-cover mats	TPE	bags 10 x 10	100	82 00 009
2.2 ml 96-well-cover mats	EVA	bags 5 x 10	50	82 00 010

384-Deep-Well Blocks

Translucent polypropylene (PP).

- RNase- and DNase free, non-sterile
- autoclavable at 121 °C, 20 min
- 16 x 24 wells alphanumerically coded, micro test plate format
- precise design, for use in automatic systems for High Throughput Screening (HTS)
- optimum space for bar code labels on the side walls
- space-saving and stackable

Product	Material	Packaging	Quantity per Pack	Order No.
0,3	PP	1 x 48	48	60 20 320

ratiolab® Micro-Tubes System

The ratiolab® micro-tubes system

This is a highly practical system for processing small volumes. The reusable Micro-Rack is the work station and takes 96 micro-tubes in the standard 8 x 12 SBS microplate format. It is a stable and robust system and has a dust-tight lid. A sloping edge helps the positioning of the refill unit. The side edges can be labeled with a barcode. The rack is excellently suited to use in automatic dosing and robotic systems.

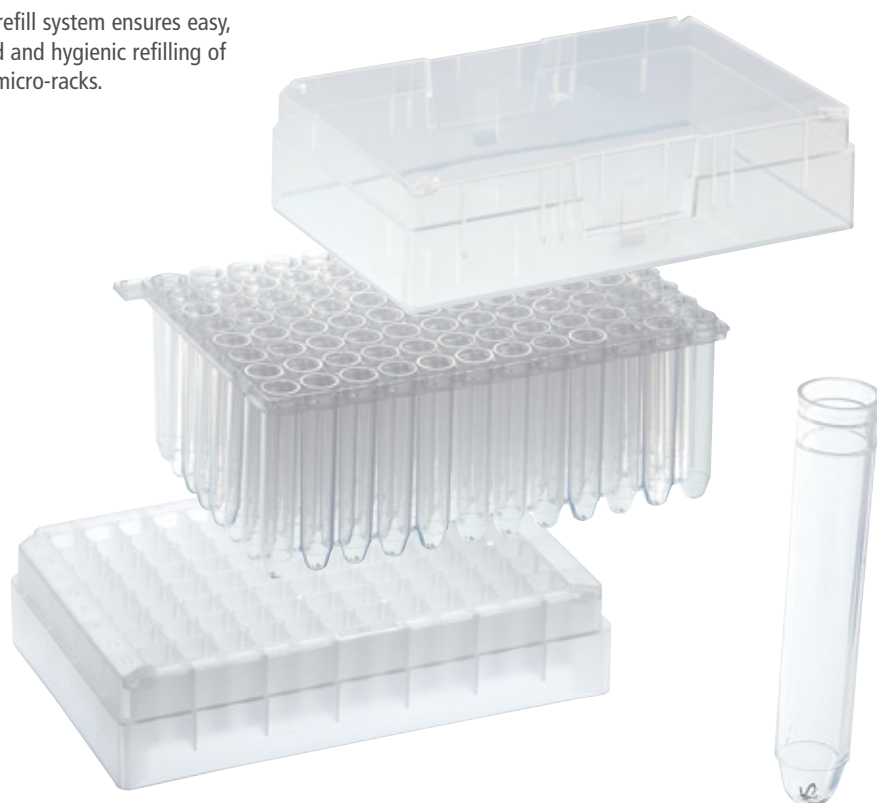
The 0.65 and 1.2 ml micro-tubes can be supplied as single, strips of 8 or in 96-well format as a refill system for 8 x 12 plates.

The tubes are closable either with an 8-lid strip or an 8 x 12 closure mat.

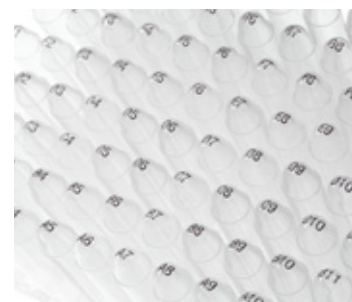
- the micro-tubes are autoclavable for 20 min at 121 °C
- temperature-resistant to –80 °C



The refill system ensures easy, rapid and hygienic refilling of the micro-racks.



The tubes can be removed singly and are numbered on the bottom.



ratiolab® Micro-Tubes System



ratiolab® Micro-Tubes

Translucent polypropylene (PP) with very low protein binding.

- available as individual Micro-Tubes or Micro-Tube-Strips of 8 tubes for use with Micro-Racks
- volume 0.65 or 1.2 ml with round bottom

Product	Volume ml	Bottom	Packaging	Quantity per Pack	Order No.
ratiolab® Micro-Tubes, individual	0.65	round	bags 5 x 1000	5000	82 00 021
ratiolab® Micro-Tubes, individual	1.2	round	bags 5 x 1000	5000	82 00 001
ratiolab® Micro-Tube-Strips of 8 tubes	0.65	round	bags 5 x 120	600	82 00 022
ratiolab® Micro-Tube-Strips of 8 tubes	1.2	round	bags 5 x 120	600	82 00 002

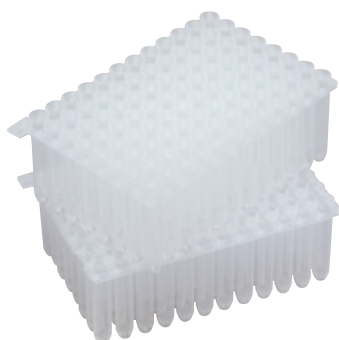


ratiolab® Micro-Racks, loaded or empty

Micro-Racks, tray and lid of translucent polypropylene (PP).

- available as empty racks or equipped with coded or non-coded Micro-Tubes
- pressure-tested tightness of the Micro-Tubes
- stackable, for the use with stacker instruments

Product	Volume ml	Bottom	Packaging	Quantity per Pack	Order No.
ratiolab® Micro-Racks, loaded, non-coded	0.65	round	50 Micro-Racks of 96 Micro-Tubes	50	82 00 023
ratiolab® Micro-Racks, loaded, coded	0.65	round	50 Micro-Racks of 96 Micro-Tubes	50	82 00 024
ratiolab® Micro-Racks, empty	0.65	—	50 Micro-Racks of 96 Micro-Tubes	50	82 00 027
ratiolab® Micro-Racks, loaded, non-coded	1.2	round	50 Micro-Racks of 96 Micro-Tubes	50	82 00 003
ratiolab® Micro-Racks, loaded, coded	1.2	round	50 Micro-Racks of 96 Micro-Tubes	50	82 00 004
ratiolab® Micro-Racks, empty	1.2	—	50 Micro-Racks of 96 Micro-Tubes	50	82 00 007



ratiolab® Micro-Tubes Refill-System for Micro-Racks

The Micro-Tubes are placed on an 8 x 12 tray and packed in an environmentally friendly cardboard box. The loaded tray can easily be moved from the cardboard box into the empty Micro-Rack.

- available with coded or non-coded Micro-Tubes
- for the very efficient, hygienic, and fast loading of Micro-Racks
- convenient handling and reduced waste
- pressure-tested tightness of the Micro-Tubes

Product	Volume ml	Bottom	Packaging	Quantity per Pack	Order No.
ratiolab® Refill with 96 Micro-Tubes, non-coded	0.65	round	50 Refills à 96 Micro-Tubes	50	82 00 025
ratiolab® Refill with 96 Micro-Tubes, coded	0.65	round	50 Refills à 96 Micro-Tubes	50	82 00 026
ratiolab® Refill with 96 Micro-Tubes, non-coded	1.2	round	50 Refills à 96 Micro-Tubes	50	82 00 005
ratiolab® Refill with 96 Micro-Tubes, coded	1.2	round	50 Refills à 96 Micro-Tubes	50	82 00 006

ratiolab® Micro-Tubes System



Closures for ratiolab® Micro-Tubes

For the air-tight sealing of 0.65 and 1.2 ml ratiolab® Micro-Tubes.
For sampling processes and filling the closures can be pierced with needles.

Product	Material	Packaging	Quantity per Pack	Order No.
8-Cap Strips 8 x 12	TPE	bags 1 x 1000	1000	82 00 008
cover mats	TPE	bags 10 x 10	100	82 00 009
aluminum universal cover film	Al	pack 1 x 100	100	60 18 611

TPE = Thermo-plastic elastomer
Al = Aluminum



Cryo Boxes for ratiolab® Micro-Racks

White, robust cardboard box, water repellent.

- temperature-resistant to –80 °C

For	Type	Packaging	Quantity per Pack	Order No.
2x2 Micro-Racks	standard	10	10	51 49 001
1x3 Micro-Racks	standard	10	10	51 49 002

PCR* Tubes



PCR* Tubes

Pure polypropylene (PP).

- rapid and homogeneous heat transfer due to consistently ultrathin wall design
- perfect fit, compatible with all major brands of thermocyclers due to precise production
- DNase-, RNase- and DNA-free
- variety of tight closures available to reduce sample evaporation

Volume ml	Caps	Packaging	Quantity per Pack	Order No.
0.2	domed	bags 1 x 1000	1000	86 10 001
0.2	flat	bags 1 x 1000	1000	86 10 006
0.5	domed	bags 1 x 1000	1000	86 10 005
0.5	flat	bags 1 x 1000	1000	86 10 007

PCR* Tubes, single

- volume 0.2 or 0.5 ml
- with attached cap, flat or domed
- caps designed for tight sealing, easy to open and to close



PCR* Strips of 8 Tubes

- volume 0.2 ml
- with attached domed cap strips or for use with detached 8-cap strips
- caps designed for tight sealing, easy-to-open and to close

Volume ml		Caps	Packaging	Quantity per Pack	Order No.
with attached individual caps					
8 x 0.2	[1]	domed	bags 1 x 125	125	86 10 039
8 x 0.2	[1]	flat	bags 1 x 125	125	86 10 040
for separate cap strips					
8 x 0.2	[2]	without	bags 1 x 125	125	86 10 002
cap strips					
8-cap strips	[3]	domed	bags 1 x 125	125	86 10 003
8-cap strips	[3]	flat	bags 1 x 125	125	86 10 015

* The Polymerase Chain Reaction (PCR) is a patented process by Hoffmann-La Roche.

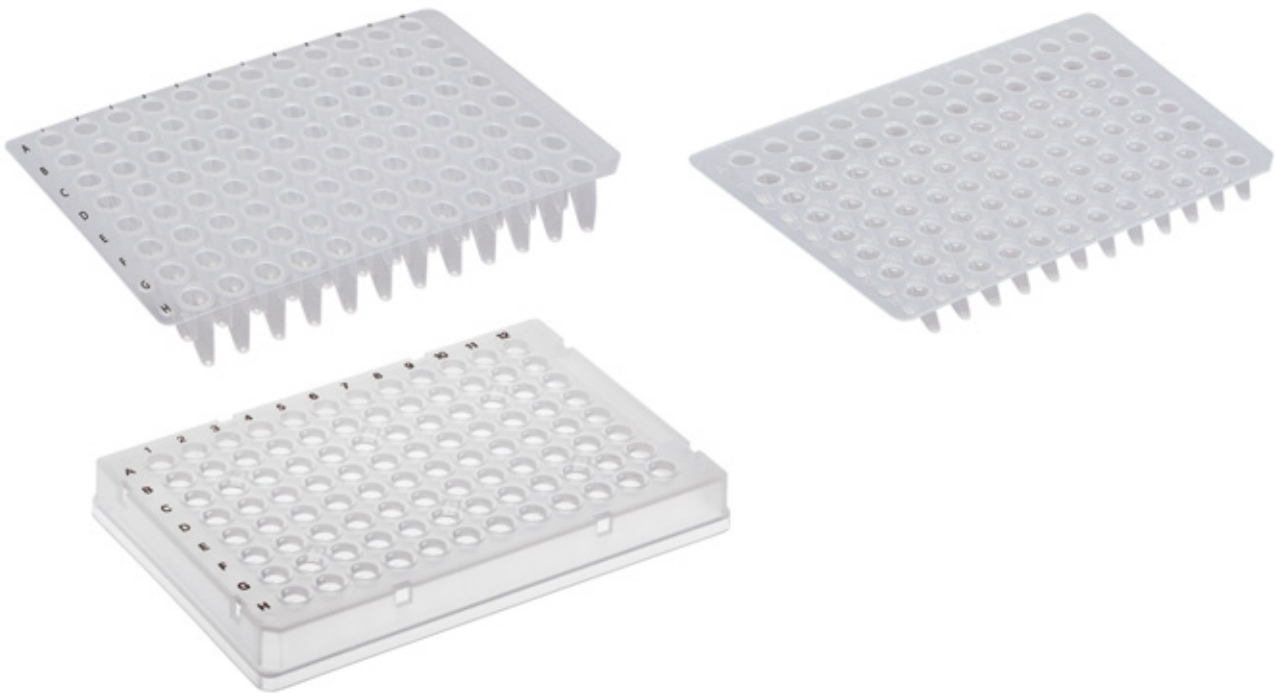
PCR* Plates

96-well PCR* Plates

These plates conform fully to the highest requirements of PCR* (Polymerase Chain Reaction). They are made of polypropylene and are characterized by their very thin but uniform walls. In this way, optimal heat transfer in short cycle times is achieved. The smooth inside walls of the cavities minimize the bonding of enzymes and nucleic acids.

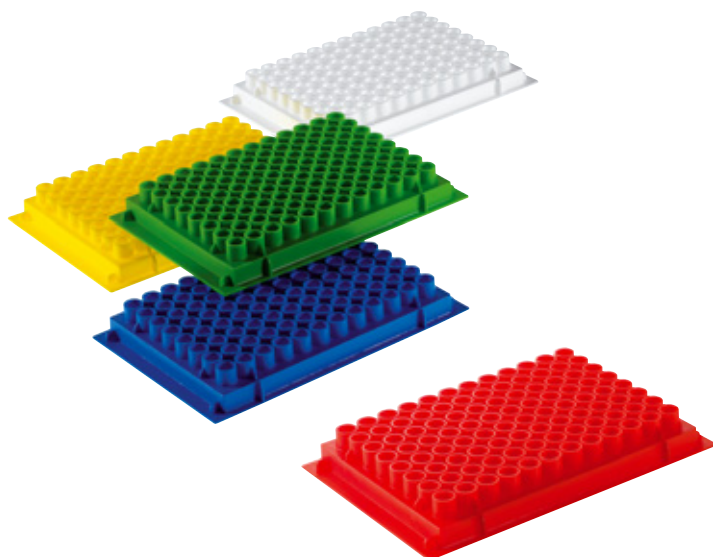
The plates are free of DNA, DNase and RNase. They are available optionally without or with edges (the latter to minimize cross-contamination).

- working volumes 0.2 ml
- alphanumeric coding for optimal sample identification
- available in three versions for various PCR systems



Volume ml	Description	Packaging	Quantity per Pack	Order No.
96 x 0.2	without rim, low form	bags 10 x 10	100	86 10 014
96 x 0.2	without rim, high form	bags 4 x 25	100	86 10 010
96 x 0.2	with rim, high form	bags 10 x 10	100	86 10 011

* The Polymerase Chain Reaction (PCR) is a patented process by Hoffmann-La Roche.

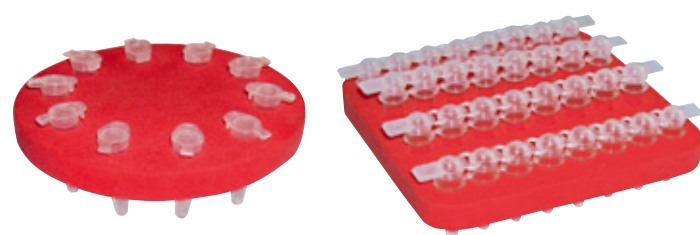


96-Well PCR Racks

Work and storage rack for 0.2 and 0.5 ml PCR tubes, PCR strips, and PCR segments.

- 8 x 12 positions, micro test plate format
- available in five colors for the convenient identification of different types of samples
- transparent lids available in two different heights

Product	Quantity of Pack	Order No.
PCR rack white	10	61 14 100
PCR rack yellow	10	61 14 101
PCR rack blue	10	61 14 102
PCR rack green	10	61 14 103
PCR rack red	10	61 14 104
lid for PCR racks, 14 mm high	10	61 14 110
lid for PCR racks, 28 mm high	10	61 14 111



Floating Cryo Racks

Ideal for the thawing out or cooling of samples in PCR tubes and PCR strips. The loaded racks remain floating. The tubes fit firmly in the racks and keep them well positioned in the bath.

Product	Quantity of Pack	Order No.
Floating Cryo Racks for 10 PCR tubes	10	61 14 200
Floating Cryo Racks for 4 PCR strips of 8 tubes	10	61 14 201



Micro Centrifuge for PCR Strips and Microcentrifuge Tubes

Space and energy saving micro centrifuge with adequate power for routine centrifugations.

- for two PCR strips of 8 tubes, 0.2 ml or 8 microcentrifuge tubes 0.5 to 2.0 ml
- speed 6600/min, RCA 2200 x g
- lid must be closed for operation mode
- safety: the lid can only be opened when the rotor is not rotating
- rapid start and stop within seconds
- power supply 230 V, 50 Hz, 10 W
- diameter 160 x 161.5 mm, height 140 mm, weight 900 g
- supplied with two rotors for two PCR strips of 8 tubes, 0.2 ml and 8 microcentrifuge tubes 0.5 to 2.0 ml

Product	Quantity of Pack	Order No.
Micro Centrifuge with two rotors	1	71 00 006

Cover Films for Micro Test and PCR* Plates



Cover Films and Film Dispenser

For micro test plates, deep-well blocks, micro test tubes and PCR plates.

- self-adhesive
- for manual operation
- temperature resistant from -80 bis $+120^{\circ}\text{C}^*$
- adhesive with high solvent resistance, specially resistant against DMSO*
- all films of SBS standard format*

Polyethylene Peeling Cover Film

- low-cost film for polystyrene plates
- can be removed without any residues
- ideal for the storage of plates at room temperature

Aluminum Universal Cover Film

- can be easily removed
- ideal for piercing
- for polystyrene and polypropylene plates
- also for use with micro-racks and critical PCR plates

Polypropylene Peeling Cover Films

- can be removed without any residues and repeatedly used
- for polystyrene and polypropylene plates
- very suitable for PCR plates
- lower limit for photometer plates 276 nm

Film Dispenser

- manually operated
- for the safe and tight sealing of plates

Further films on request.

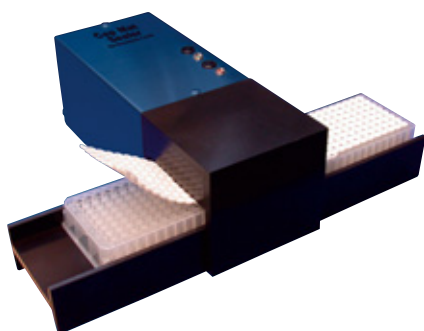
Product	Material	Packaging	Quantity per Pack	Order No.
polyethylene peeling cover film	PE	pack 1 x 100	100	60 18 610
aluminum universal cover film	Al	pack 1 x 100	100	60 18 611
polypropylene peeling cover film	PP	pack 1 x 100	100	60 18 612
film dispenser	—	1	1	60 18 613

PE = Polyethylene
Al = Aluminum
PP = Polypropylene

* except order number 60 18 610

* The Polymerase Chain Reaction (PCR) is a patented process by Hoffmann-La Roche.

Film-Sealing Instruments and Cover Films

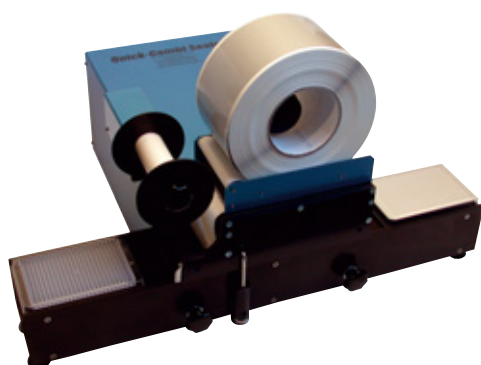


Sealing Instrument for Cover Mats, Cap Mat Sealer

Electrically operated instrument for the sealing of micro test plates, micro tubes, special plates and cassette systems with cover mats.

- easy to use
- fast operation
- safe sealing

Product	Voltage	Quantity per Pack	Order No.
Cap Mat Sealer	230 V	1	60 18 600



Micro Test Plate Sealing Instrument, Quick Combi Sealer

Semi-automatic instrument for the sealing of micro test plates of all kinds with cover films.

- films and adhesive proved resistant against DMSO
- very easy handling
- fast operation, seals a single plate within 4 seconds
- low-priced films of aluminum and plastics for peeling and piercing
- 100 m rolls sufficient for approx. 780 plates

Product	Packaging	Quantity per Pack	Order No.
Quick Combi Sealer	1	1	60 18 615
cleansing spray for Sealer	1 bottle	1	60 18 601
aluminum piercing cover film for sealers	roll of 12.5 m	1	60 18 602
aluminum peeling cover film for sealers	roll of 12.5 m	1	60 18 614
aluminum peeling cover film	roll of 100 m	1	60 18 603
aluminum peeling and piercing cover film	roll of 100 m	1	60 18 604
polyolefin peeling cover film	roll of 100 m	1	60 18 605
polyolefin cover film, gas permeable, for sealers	roll of 100 m	1	60 18 606
nonwoven cover film gas permeable	roll of 100 m	1	60 18 607
polypropylene peeling cover film	roll of 100 m	1	60 18 608

Cryo



Think Development and production of customized products



Liquid handling products



Labware for general lab applications



Life sciences products for microbiology and biotechnology



Cryo products for deep-freeze applications

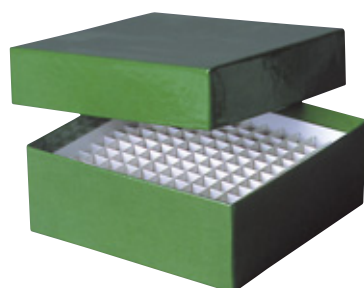
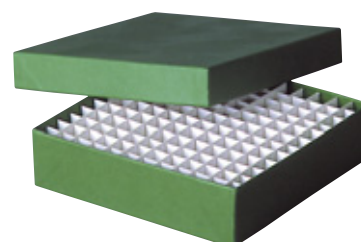
ratiolab® Cryo Boxes, Cardboard, Format 133 x 133 mm

ratiolab® Cryo Boxes, Cardboard, Format 133 x 133 mm

Ultra low temperature-resistant cardboard.

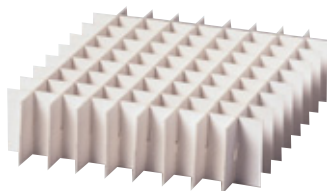
other sizes
available on request

- temperature-resistant down to –80 °C
- available with a water-repellent finish or with a water-resistant plastic coating
- highest flexibility: Cryo Boxes can be combined with different Grid Inserts
- the Cryo Boxes can be used for larger vessels if the grid is removed



Color	Quantity per Pack	Height 32 mm Order No.	Height 50 mm Order No.	Height 75 mm Order No.	Height 100 mm Order No.	Height 130 mm Order No.
Water-repellant standard coating						
white	10	51 31 321	51 31 501	51 31 751	51 31 001	51 31 131
blue	10	51 31 322	51 31 502	51 31 752	51 31 002	51 31 132
red	10	51 31 323	51 31 503	51 31 753	51 31 003	51 31 133
green	10	51 31 324	51 31 504	51 31 754	51 31 004	51 31 134
yellow	10	51 31 325	51 31 505	51 31 755	51 31 005	51 31 135
With waterproof plastic coating						
white	10	51 32 321	51 32 501	51 32 751	51 32 001	51 32 131
blue	10	51 32 322	51 32 502	51 32 752	51 32 002	51 32 132
red	10	51 32 323	51 32 503	51 32 753	51 32 003	51 32 133
green	10	51 32 324	51 32 504	51 32 754	51 32 004	51 32 134
yellow	10	51 32 325	51 32 505	51 32 755	51 32 005	51 32 135

ratiolab® Cryo Boxes, Cardboard, Format 133 x 133 mm



ratiolab® Grid Inserts for Cryo Boxes, Format 133 x 133 mm

Ultra low temperature-resistant cardboard.

other sizes
available on request

- for sample storage even at ultra low temperatures
- temperature-resistant down to –80 °C
- water-repellent finish
- packaging in practical folding cartons

Grid	Quantity per Pack	For Tube Dia. mm	Height of Grids 25 mm Order No.	Height of Grids 30 mm Order No.	Height of Grids 40 mm Order No.	Height of Grids 65 mm Order No.
4x4	10	28.0	51 20 214	51 20 215	51 20 216	51 20 217
5x5	10	23.0	51 20 124	51 20 125	51 20 126	51 20 127
6x6	10	19.0	51 20 134	51 20 135	51 20 136	51 20 137
7x7	10	16.0	51 20 144	51 20 145	51 20 146	51 20 147
8x8	10	14.0	51 20 154	51 20 155	51 20 156	51 20 157
9x9	10	11.5	51 20 165	51 20 166	51 20 167	51 20 168
10x10	10	10.5	51 20 175	51 20 174	51 20 176	51 20 177
12x12	10	8.5	51 20 185	51 20 184	51 20 186	51 20 187
13x13	10	8.0	51 20 194	51 20 195	51 20 196	51 20 197
14x14	10	7.0	51 20 204	51 20 205	51 20 206	51 20 207
16x16	10	6.0	51 20 225	51 20 226	51 20 227	51 20 228



ratiolab® Cryo Boxes and Grid Inserts, Cardboard, 1/2-Format 133 x 66.5 mm

Ultra low temperature-resistant cardboard, white.

- for sample storage even at ultra low temperatures
- temperature-resistant down to –80 °C
- water-repellent finish

Product	Grid	W x D x H mm	For Tube Dia. mm	Quantity per Pack	Order No.
1/2-format Cryo Boxes, cardboard		133 x 66,5 x 50		10	51 31 506
1/2-format Grid Inserts	8 x 4	127 x 60 x 30	14.0	10	51 20 218
1/2-format Grid Inserts	10 x 5	127 x 60 x 30	10.5	10	51 20 128

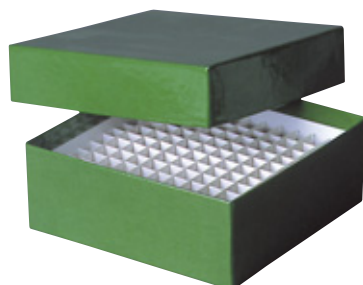
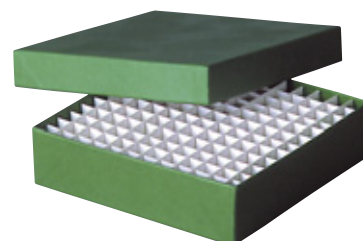
ratiolab® Cryo Boxes, Cardboard, Format 136 x 136 mm

ratiolab® Cryo Boxes, Cardboard, Format 136 x 136 mm

Ultra low temperature-resistant cardboard.

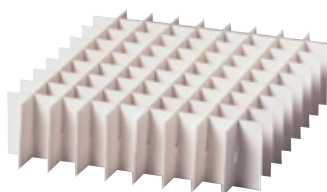
other sizes
available on request

- for sample storage even at ultra low temperatures
- optional with special water-repellant or waterproof coatings
- temperature resistant down to -80°C
- highest flexibility: Cryo Boxes can be combined with different Grid Inserts
- the Cryo Boxes can be used for larger vessels if the grid is removed



Color	Quantity per Pack	Height 32 mm Order No.	Height 50 mm Order No.	Height 75 mm Order No.	Height 100 mm Order No.	Height 130 mm Order No.
Water-repellant standard coating						
white	10	51 41 321	51 41 501	51 41 751	51 41 001	51 41 131
blue	10	51 41 322	51 41 502	51 41 752	51 41 002	51 41 132
red	10	51 41 323	51 41 503	51 41 753	51 41 003	51 41 133
green	10	51 41 324	51 41 504	51 41 754	51 41 004	51 41 134
yellow	10	51 41 325	51 41 505	51 41 755	51 41 005	51 41 135
With waterproof plastic coating						
white	10	51 42 321	51 42 501	51 42 751	51 42 001	51 42 131
blue	10	51 42 322	51 42 502	51 42 752	51 42 002	51 42 132
red	10	51 42 323	51 42 503	51 42 753	51 42 003	51 42 133
green	10	51 42 324	51 42 504	51 42 754	51 42 004	51 42 134
yellow	10	51 42 325	51 42 505	51 42 755	51 42 005	51 42 135

ratiolab® Cryo Boxes, Cardboard, Format 136 x 136 mm



ratiolab® Grid Inserts for Cryo Boxes, Format 136 x 136 mm

Ultra low temperature-resistant cardboard.

other sizes
available on request

- for sample storage even at ultra low temperatures
- temperature-resistant down to –80 °C
- water-repellent finish

Grid	Quantity per Pack	For Tube Dia. mm	Height of Grids 25 mm Order No.	Height of Grids 30 mm Order No.	Height of Grids 40 mm Order No.	Height of Grids 65 mm Order No.
4 x 4	10	28.5	51 20 210	51 20 211	51 20 212	51 20 213
5 x 5	10	23.5	51 20 121	51 20 120	51 20 122	51 20 123
6 x 6	10	19.5	51 20 131	51 20 130	51 20 132	51 20 133
7 x 7	10	16.5	51 20 143	51 20 140	51 20 142	51 20 141
8 x 8	10	14.5	51 20 152	51 20 150	51 20 151	51 20 153
9 x 9	10	12.0	51 20 163	51 20 160	51 20 161	51 20 162
10 x 10	10	11.0	51 20 173	51 20 170	51 20 172	51 20 171
12 x 12	10	9.0	51 20 182	51 20 180	51 20 181	51 20 183
13 x 13	10	8.5	51 20 190	51 20 193	51 20 191	51 20 192
14 x 14	10	7.5	51 20 202	51 20 203	51 20 201	51 20 200
16 x 16	10	6.5	51 20 221	51 20 222	51 20 223	51 20 224



ratiolab® Cryo Boxes and Grid Inserts, Cardboard, 1/2-Format 136 x 68 mm and 1/4-Format 75 x 75 mm

Ultra low temperature-resistant cardboard, white.

- for sample storage even at ultra low temperatures
- temperature-resistant down to –80 °C
- water-repellent finish

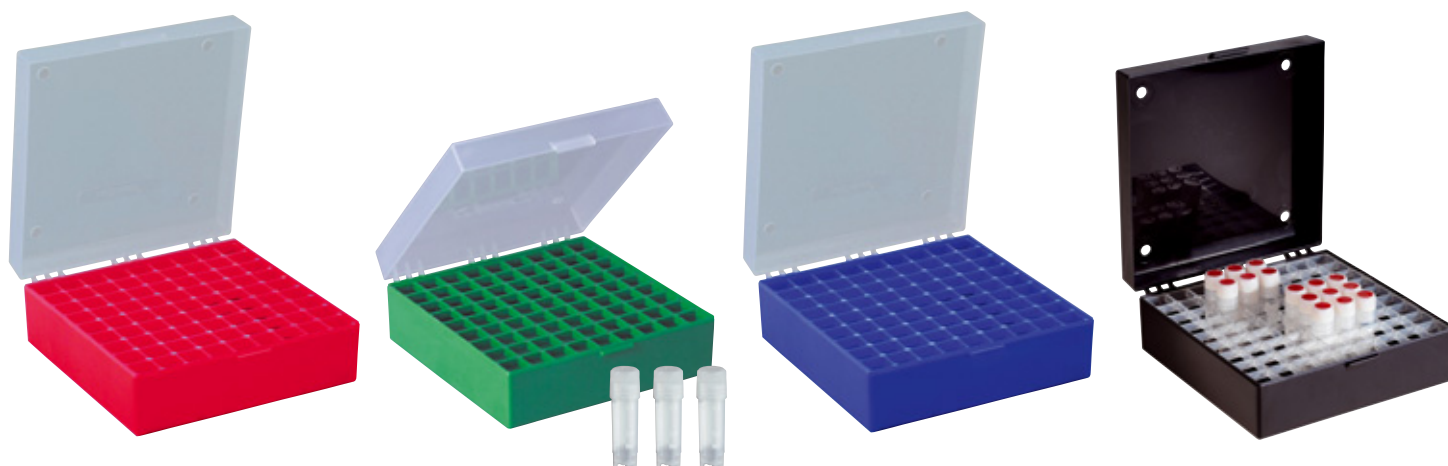
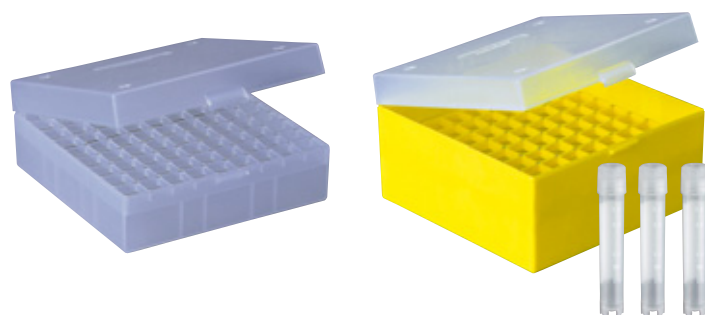
Product	Grid	W x D x H mm	For Tube Dia. mm	Quantity per Pack	Order No.
1/2-format Cryo Boxes, cardboard		136 x 68 x 50		10	51 60 028
1/2-format Grid Inserts	8 x 4	130 x 62 x 30	14.5	10	51 20 219
1/2-format Grid Inserts	10 x 5	130 x 62 x 30	11.0	10	51 60 029
1/4-format Cryo Boxes, cardboard		75 x 75 x 50		10	51 60 035
1/4-format Grid Inserts	5 x 5	69 x 69 x 35	11.0	10	51 60 036

ratiolab® Cryo Boxes with Grids, PP, Format 133 x 133 mm

ratiolab® Cryo Boxes with Grids, PP, Format 133 x 133 mm

High quality polypropylene. Available in natural and other colors.

- autoclavable, temperature-resistant from –90 °C to +121 °C
- 81 places, 9 x 9 grid, numerically coded
- robust hinge with safe snap-on lid
- stackable for safe transport
- drain bores at the bottom for dew liquids
- removable grid inserts
- Cryo Boxes can also be used for larger vessels by removing the grid inserts



Product	W x D x H mm	For Tube Dia. mm	Quantity per Pack	Grid	Order No.
for Cryo Tubes 1.2 – 2 ml					
natural	133 x 133 x 52	12.8	5	9 x 9	51 20 010
yellow	133 x 133 x 52	12.8	5	9 x 9	51 20 011
red	133 x 133 x 52	12.8	5	9 x 9	51 20 012
green	133 x 133 x 52	12.8	5	9 x 9	51 20 013
blue	133 x 133 x 52	12.8	5	9 x 9	51 20 014
black	133 x 133 x 52	12.8	5	9 x 9	51 20 015
for Cryo Tubes 3 – 4 ml					
natural	133 x 133 x 75	12.8	5	9 x 9	51 20 020
yellow	133 x 133 x 75	12.8	5	9 x 9	51 20 021
red	133 x 133 x 75	12.8	5	9 x 9	51 20 022
green	133 x 133 x 75	12.8	5	9 x 9	51 20 023
blue	133 x 133 x 75	12.8	5	9 x 9	51 20 024
black	133 x 133 x 75	12.8	5	9 x 9	51 20 025

ratiolab® Cryo Boxes and Grid Inserts, PP, Format 133 x 133 mm



ratiolab® Cryo Boxes and Grid Inserts, PP, Format 133 x 133 mm

These ratiolab® Cryo Boxes are particularly practical and flexible due to their removable inserts. The boxes themselves are made of high-quality polypropylene in natural or other colors. They are available with heights of 52 or 75 mm.

The separate naturally-colored inserts are available in five sizes and can thus be used with sample vessels of differing diameters. The inserts fit all ratiolab® Cryo Boxes. Cleaning of the boxes and the inserts is much simpler than with Cryo Boxes with permanently fitted inserts.

- autoclavable, temperature-resistant from –90 °C to +121 °C
- robust hinge with safe snap-on lid
- stackable for safe transport
- drain bores at the bottom for dew liquids
- Cryo Boxes can also be used for larger vessels by removing the grid inserts

Product	W x D x H mm	For Tube Dia. mm	Quantity per Pack	Order No.
Cryo Boxes without Grid Insert				
natural	133 x 133 x 52		5	52 20 010
yellow	133 x 133 x 52		5	52 20 011
red	133 x 133 x 52		5	52 20 012
green	133 x 133 x 52		5	52 20 013
blue	133 x 133 x 52		5	52 20 014
black	133 x 133 x 52		5	52 20 015
natural	133 x 133 x 75		5	52 20 020
yellow	133 x 133 x 75		5	52 20 021
red	133 x 133 x 75		5	52 20 022
green	133 x 133 x 75		5	52 20 023
blue	133 x 133 x 75		5	52 20 024
black	133 x 133 x 75		5	52 20 025
Grid Inserts				
6 x 6	133 x 133 x 30	20.5	5	52 20 100
7 x 7	133 x 133 x 30	17.3	5	52 20 101
8 x 8	133 x 133 x 30	15.8	5	52 20 102
9 x 9	133 x 133 x 30	12.8	5	52 20 103
10 x 10	133 x 133 x 30	11.2	5	52 20 104

ratiolab® Cryo Boxes with Grids, PC, Format 133 x 133 mm



ratiolab® Cryo Boxes with Grids, PC, Format 133 x 133 mm

Made of high-quality colored polycarbonate (PC). For use with liquid nitrogen.

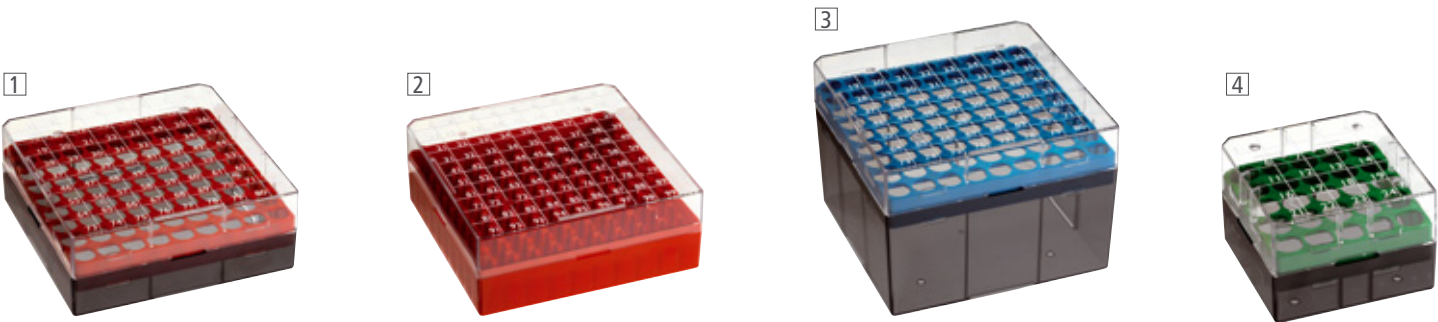
- autoclavable, temperature-resistant from –190 °C to +121 °C
- 81 or 100 places, 9 x 9 resp. 10 x 10 grids
- 1/4-format with 25 places, 5 x 5 grid
- numerically coded
- stackable for safe transport
- drain bores at the bottom for dew liquids
- Cryo Boxes can also be used for larger vessels by removing the grid inserts

Color		W x D x H mm	Quantity per Pack	Grid	Order No.
for Cryo Tubes 1.2 – 2 ml					
blue	[1]	133 x 133 x 52	5	9 x 9	51 50 001
green	[1]	133 x 133 x 52	5	9 x 9	51 50 002
red	[1]	133 x 133 x 52	5	9 x 9	51 50 003

for Cryo Tubes 1.2 – 2 ml					
blue	[2]	133 x 133 x 52	5	10 x 10	51 50 011
green	[2]	133 x 133 x 52	5	10 x 10	51 50 012
red	[2]	133 x 133 x 52	5	10 x 10	51 50 013

for Cryo Tubes 3 – 5 ml					
blue	[3]	133 x 133 x 95	4	9 x 9	51 50 021
green	[3]	133 x 133 x 95	4	9 x 9	51 50 022
red	[3]	133 x 133 x 95	4	9 x 9	51 50 023

1/4-format, for Cryo Tubes					
blue	[4]	76 x 76 x 52	8	5 x 5	51 50 031
green	[4]	76 x 76 x 52	8	5 x 5	51 50 032
red	[4]	76 x 76 x 52	8	5 x 5	51 50 033



Cryo Tubes

Cryo Tubes

Polypropylene with highest translucence. For the storing and conservation of tissue cultures and biological samples e.g. sera, blood and spermata. For applications to –190 °C in the gaseous phase of liquid nitrogen or in freezers. The tubes are produced in a class 7 clean room (class 10000) according to DIN ISO 13485:2004, ISO 14644 and 14698 (Federal Standard 209).

- sterilized by beta-radiation according to EN ISO 11137

- lid with integrated sealing function; no additional silicone O-ring
- internal conical bottom for complete emptying
- white graduations for precise measurement
- white lettering for sample identification
- available with internal or external threads
- equipped with base for using with one hand
- 2.0 ml tubes available also with round bottom
- packaged in PE bags containing 100 and cartoned
- each tube and package is labeled with expiry date



free of DNA, DNase,
pyrogens and ATP

Volume ml	Description	Ø x Height mm	Quantity per Pack	Order No.
Cryo Tubes with Male Thread				
1.2	self standing	12.5 x 43	10 x 100	51 10 112
2.0	round base	12.5 x 48	10 x 100	51 10 120
2.0	self standing	12.5 x 49	10 x 100	51 10 122
3.0	self standing	12.5 x 72	10 x 100	51 10 130
4.0	self standing	12.5 x 78	10 x 100	51 10 140
5.0	self standing	12.5 x 92	10 x 100	51 10 150
Cryo Tubes with Female Thread				
1.2	self standing	12.5 x 41	10 x 100	51 10 013
2.0	round base	12.5 x 48	10 x 100	51 10 025
2.0	self standing	12.5 x 49	10 x 100	51 10 024
4.0	self standing	12.5 x 78	10 x 100	51 10 041
5.0	self standing	12.5 x 90	10 x 100	51 10 051

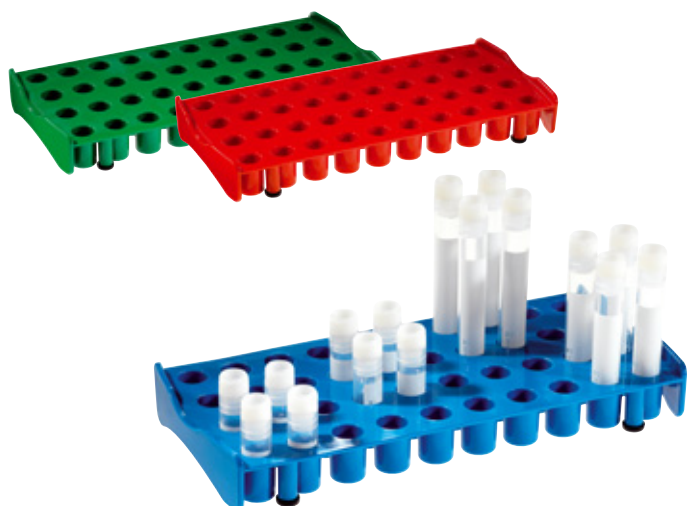
Cryo Tubes Accessories



Color Coding Cap Inserts for Cryo Tubes

Polypropylene. For cryo tubes 1.2 to 5.0 ml.
Packed in PE-bags with 500 pcs.

Color	Quantity per Pack	Order No.
white	500	51 10 001
red	500	51 10 002
blue	500	51 10 003
green	500	51 10 004

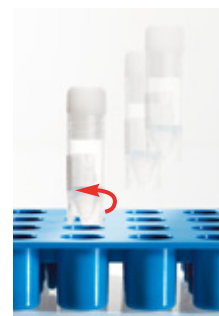


Work Stations for 40 Cryo Tubes

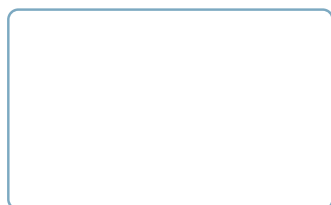
High quality polypropylene.

For 40 Cryo Tubes 1.2 to 5 ml with 12.5 mm outer diameter. Cryo Tubes with self standing base are automatically locked in the Work Station and can easily be screwed and unscrewed with one hand.

- with non-slip feet, the Work Stations stand safely on laboratory benches
- autoclavable
- size 100 x 220 x 30 mm



Color	Quantity per Pack	Order No.
blue	4	53 00 100
red	4	53 00 200
green	4	53 00 400



Special Adhesive Labels for Cryo Boxes

Labels with a special surface for durable individual labelling.
For Cryo Boxes made from cardboard or plastics.

- adhesive resists temperatures to -80°C
- size 65 x 40 mm

Product	Quantity per Pack	Order No.
Special Adhesive Labels for Cryo Boxes	100	51 20 001

Cryo Racks for Freezer Chests

Cryo Racks, stainless steel

For the storing of Cryo Boxes in freezer chests.
Stainless steel.

- polished surfaces for perfect cleaning
- robust construction
- handles for convenient transport
- Cryo Racks can be supplied with shelf sizes for any standard Cryo Boxes

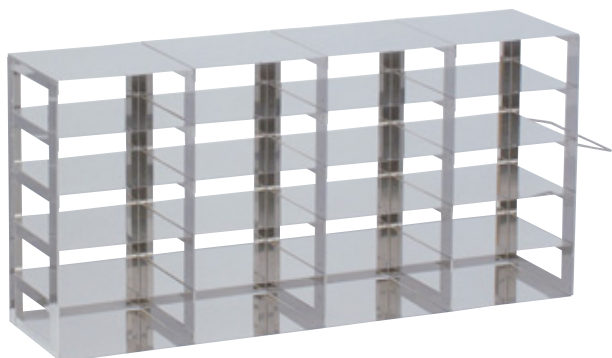
Cryo Rack standard sizes are listed in the tables below.

other sizes
available on request



Number of Shelves horizontal x vertical	Rack Size W x D x H	32 mm	for Cryo Boxes Height 50 mm	75 mm	100 mm	Quantity per Pack	Order No.
Cryo Racks for Freezer Chests							
1 x 4	140 x 140 x 222 mm		■			1	54 00 041
1 x 6	140 x 140 x 482 mm			■		1	54 00 028
1 x 7	140 x 140 x 385 mm		■			1	54 00 042
1 x 7	140 x 140 x 561 mm			■		1	54 00 029
1 x 8	140 x 140 x 441 mm		■			1	54 00 027
1 x 8	140 x 140 x 641 mm			■		1	54 00 030
1 x 9	140 x 140 x 495 mm		■			1	54 00 026
1 x 9	140 x 140 x 720 mm			■		1	54 00 031
1 x 10	140 x 140 x 550 mm		■			1	54 00 000
1 x 11	140 x 140 x 406 mm	■				1	54 00 032
1 x 11	140 x 140 x 604 mm		■			1	54 00 023
1 x 12	140 x 140 x 443 mm	■				1	54 00 033
1 x 12	140 x 140 x 659 mm		■			1	54 00 025
1 x 13	140 x 140 x 479 mm	■				1	54 00 034
1 x 13	140 x 140 x 713 mm		■			1	54 00 001
1 x 14	140 x 140 x 516 mm	■				1	54 00 035
1 x 15	140 x 140 x 552 mm	■				1	54 00 036
1 x 16	140 x 140 x 589 mm	■				1	54 00 037
1 x 17	140 x 140 x 625 mm	■				1	54 00 038
1 x 18	140 x 140 x 662 mm	■				1	54 00 024

Cryo Racks for Freezer Cabinets



Cryo Racks, stainless steel

For the storing of Cryo Boxes in freezer cabinets and chests. Stainless steel.

- polished surfaces for perfect cleaning
- robust construction
- handles for convenient transport
- Cryo Racks can be supplied with shelf sizes for any standard Cryo Boxes

Cryo Rack standard sizes are listed in the tables below.

other sizes
available on request

Number of Shelves horizontal x vertical	Rack Size L x B x H	32 mm	for Cryo Boxes 50 mm	Height 75 mm	100 mm	Quantity per Pack	Order No.
Cryo Racks for Freezer Cabinets							
3 x 3	424 x 140 x 165 mm		■			1	54 00 007
3 x 4	424 x 140 x 219 mm		■			1	54 00 009
3 x 5	424 x 140 x 274 mm		■			1	54 00 022
4 x 3	566 x 140 x 240 mm			■		1	54 00 006
4 x 3	566 x 140 x 314 mm				■	1	54 00 040
4 x 4	566 x 140 x 219 mm		■			1	54 00 004
4 x 4	566 x 140 x 319 mm				■	1	54 00 005
4 x 5	566 x 140 x 274 mm		■			1	54 00 003
4 x 6	566 x 140 x 328 mm		■			1	54 00 002

Cryo Racks for Freezer Cabinets



Stainless steel slide-in units

For the storing of Cryo Boxes.
Stainless steel.

- cabinet slide-ins without pull-out stop
- easy-to-clean polished surface
- robust design

Cryo Rack standard sizes are listed in the tables below.

other sizes
available on request

Number of Shelves vertical x horizontal	Rack Size L x B x H	for Cryo Boxes Height				Quantity per Pack	Order No.
		32 mm	50 mm	75 mm	100 mm		
Cryo Racks for Freezer Cabinets							
4 x 4	553 x 141 x 225 mm		■			1	5400 046
5 x 4	553 x 141 x 280 mm		■			1	5400 045
6 x 4	553 x 141 x 335 mm		■			1	5400 047
3 x 4	553 x 141 x 250 mm			■		1	5400 019
4 x 4	553 x 141 x 335 mm			■		1	5400 066

Technical information



Think Development and production
of customized products



Liquid handling
products



Labware for general
lab applications



Life sciences products for
microbiology and biotechnology



Cryo products for
deep-freeze applications

Chemical resistance of plastics

The plastics used are classified as follows with respect to chemical resistance:

+ Excellent chemical resistance

Constant contact with medium gives rise to no damage to the plastic within 30 days. The plastic can, however, remain resistant over a number of years.

O Partial to good chemical resistance

Constant contact with the medium gives rise to minor damage within a period of 7-30 days; such damage is in fact partially reversible (e.g. swelling, softening, less mechanical firmness, discoloration).

— Low chemical resistance

Not suitable for constant contact with medium. Damage may occur immediately (e.g. less mechanical firmness, deformation, discoloration, cracks, dissolution).

Chemical resistance of plastics with groups of substances at 20 °C	PP	PS	PE-HD	PE-LD
Alcohols, aliphatic	+	+	+	+
Ether	O	—	O	O
Aldehydes	+	—	+	O
Ester	O	—	O	O
Hydrocarbons, aliphatic	+	—	+	O
Hydrocarbons, aromatic	O	—	+	O
Hydrocarbons, halogenated	O	—	O	O
Ketones	O	—	O	O
Alkalis	+	+	+	+
Acids, strong or concentrated	+	O	+	+
Acids, weak or diluted	+	O	+	+
Oxidizing acids, oxidizing agents	—	—	—	—

These carefully selected recommendations from the literature or from manufacturers are intended to inform and guide. However, the user is obliged to check suitability for the applications intended.

Chemical	PP 20 °C 50 °C		PS 20 °C 50 °C		PE-HD 20 °C 50 °C		PE-LD 20 °C 50 °C	
Acetaldehyde	+	—	—	—	+	O	+	—
Acetic acid (glacial), 100 %	+	O	—	—	+	+	+	O
Acetic acid, 96 %	+	+	O	O	+	+	+	+
Acetic anhydride	O	O	—	—	O	O	—	—
Acetone	+	+	—	—	+	+	+	O
Acetonitrile	+	O	—	—	+	O	+	O
Acetophenone	O	O	—	—	O	O	—	—
Acetylacetone	+		—	—	+		+	
Acetylchloride	+		—	—	+		+	
Acrylic acid	+		—	—	+		+	
Acrylonitrile	O	—	—	—	+	+	+	+
Adipic acid	+	+	+	+	+	+	+	+
Allyl alcohol	+	+	+	O	+	+	+	+
Aluminum chloride	+	+	+	+	+	+	+	+
Aluminum hydroxide	+	+	O	O	+	+	+	+
Amino acids	+	+	+	+	+	+	+	+
Ammonium chloride	+	+	+	+	+	+	+	+
Ammonium fluoride	+	+	+	+	+	+	+	+
Ammonium hydroxide, 30 % (Ammonia)	+	+	O	—	+	+	+	+
Ammonium sulfate	+	+	+	+	+	+	+	+
n-Amyl acetate	O	—	—	—	+	O	O	—
Amyl alcohol (Pentanol)	+	+	O	O	+	+	+	+
Amyl chloride (Chloropentane)	—	—	—	—	—	—	—	—

Chemical resistance of plastics

Chemical	PP		PS		PE-HD		PE-LD	
	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C
Aniline	+	+	–	–	+	+	+	0
Barium chloride	+	+	+	+	+	+	+	+
Benzaldehyde	+	+	–	–	+	+	+	+
Benzene (Benzol)	+	0	–	–	+	+	0	–
Benzine (Gasoline)	0	0	–	–	+	+	0	–
Benzoyl chloride	+	0	–	–	+	+	0	–
Benzyl alcohol	0	–	–	–	0	–	0	–
Benzylamine	0		–	–	0		0	–
Benzylchloride			–	–				
Boric acid, 10 %	+	+	+	+	+	+	+	+
Bromine	–	–	–	–	–	–	–	–
Bromobenzene	–	–	–	–	–	–	–	–
Bromoform	–	–	–	–	–	–	–	–
Bromonaphthalene			–	–				
Butanediol	+	+	–	–	+	+	+	+
1-Butanol	+	+	0	–	+	+	+	+
Butylamine			–	–				
n-Butyl acetate	0	0	–	–	+	+	0	0
Butyl methyl ether	+	0	–	–	0	–	0	–
Butyric acid	–	–	–	–	0	–	–	–
Calcium carbonate	+	+	+	+	+	+	+	+
Calcium chloride	+	+	+	+	+	+	+	+
Calcium hydroxide	+	+	+	0	+	+	+	+
Calcium hypochlorite	+	+	+	+	+	+	+	+
Calomel	+	+	+	0	+	+	+	+
Carbon disulfide	–	–	–	–	–	–	–	–
Carbon tetrachloride	–	–	–	–	0	–	–	–
Chloro naphthalene								
Chloroacetaldehyde, 45 %			–	–				
Chloroacetic acid	+	+	–	–	+	+	+	+
Chloroacetone			–	–				
Chlorobenzene	0	–	–	–	–	–	–	–
Chlorobutane	0	–	–	–	0	–	0	–
Chloroform	–	–	–	–	+	0	–	–
Chlorosulfonic acid								
Chromic acid, 10 %	+	+	–	–	+	+	+	+
Chromic acid, 50 %	0	0	–	–	+	0	+	0
Chromosulfuric acid	–	–	0	0	+	–	+	–
Copper sulfate	+	+	+	+	+	+	+	+
Cresol	0	0	–	–	0	–	–	–
Cumene (isopropyl benzene)	0	–	–	–	+	0	0	–
Cyclohexane	0	–	–	–	0	–	0	–
Cyclohexanone	0	–	–	–	0	–	–	–
Cyclopentane	0	–	–	–	0	–	–	–
Decane	0				0	–		
1-Decanol	+		0		+			
Dibenzylether	+		–	–	+			
Dibromoethane								
Dibutyl phthalate	+	0	–	–	0	–	0	–
Dichloroacetic acid	0	–	0	–	0	0	0	–
Dichlorobenzene	0	–	–	–	0	–	0	–
Dichloroethane	0	–			0	–	0	–
Dichloromethane	0	–	–	–	0	–	0	–
Diesel oil (Heating oil)	+	0	–	–	+	0	0	–
Diethanolamine	0		–	–	0			
1.2 Diethylbenzene	–	–	–	–	0	–	–	–

Chemical resistance of plastics

Chemical	PP		PS		PE-HD		PE-LD	
	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C
Diethylether	0	—	—	—	0	—	—	—
Diethylamine	0	—	0	0	0	—	—	—
Diethylene glycol	+	+	0	—	+	+	+	+
Dimethyl sulfoxide (DMSO)	+	+	—	—	+	+	+	+
Dimethylaniline			—	—				
Dimethylformamide (DMF)	+	+	—	—	+	+	+	+
1.4 Dioxane	+	0	—	—	+	+	+	0
Diphenyl ether			—	—				
Ethanol	+	+	—	—	+	+	+	+
Ethanolamine	+							
Ethyl acetate	+	0	—	—	+	+	+	+
Ethyl methyl ketone	+	0	—	—	0	—	0	—
Ethylbenzene	—	—	—	—	—	—	—	—
Ethylene glycol (glycol)	+	+	+	+	+	+	+	+
Ethylene oxide	0	—	—	—	0	0	0	0
Fluoroacetic acid			—	—				
Formaldehyde, 40 %	+	+	—	—	+	+	+	+
Formamide	+	+			+	+	+	+
Formic acid, 100 %	+	+	+	0	+	+	+	+
Glycerol	+	+	+	+	+	+	+	+
Glycolic acid, 50 %	+	+			+	+	+	+
Heating oil (Diesel oil)	+	0	—	—	+	0	0	—
Heptane	0	0	—	—	0	0	0	—
Hexane	+	0	0	—	+	0	0	—
Hexanoic acid								
Hexanol	+	+			+	+	+	+
Hydriodic acid	+	+			+	+	+	+
Hydrobromic acid	+	+	0	—	+	+	+	+
Hydrochloric acid, 10 %	+	+	+	+	+	+	+	+
Hydrochloric acid, 20 %	+	+	+	+	+	+	+	+
Hydrochloric acid, 37 %	+	+	0	0	+	+	+	+
Hydrofluoric acid, 40 %	+	+	+	+	+	+	+	+
Hydrofluoric acid, 70 %	+	0	—	—	+	0	+	—
Hydrogen peroxide, 35 %	+	+	+	+	+	+	+	+
Isoamyl alcohol	+	+			+	+	+	+
Isobutanol	+	+	0	0	+	+	+	+
Isooctane			0					
Isopropanol (2-propanol)	+	+	0	0	+	+	+	+
Isopropyl ether	—	—	—	—	—	—	—	—
Lactic acid	+	+	+	+	+	+	+	+
Lugol's solution (iodine-potassium iodide solution)	+	+	0	—	—	—	—	—
Mercury	+	+	+	+	+	+	+	+
Methanol	+	+	0	—	+	+	+	0
Methoxybenzene			—	—				
Methyl formate			—	—				
Methyl propyl ketone	+	0	—	—	+	+	+	0
Methylene chloride	0	—	—	—	0	—	0	—
Mineral oil (engine oil)	+	+	+		+	+	+	0
Monochloroacetic acid	+	+	—	—	+	+	+	+
Nitric acid, 10 %	+	+	—	—	+	+	+	+
Nitric acid, 30 %	0	—	—	—	0	—	0	0
Nitric acid, 70 %	—	—	—	—	—	—	—	—
Nitrobenzene	—	—	—	—	0	—	—	—
Nitrohydrochloric acid	0	—	0	—	—	—	—	—
Oleic acid			—	—				
Oxalic acid	+	+	+	+	+	+	+	+

Chemical resistance of plastics

Chemical	PP		PS		PE-HD		PE-LD	
	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C
Ozone	0	–	0	0	0	–	0	–
n-Pentane								
Peracetic acid								
Perchloric acid	+	–	–	–	+	–	+	–
Perchloroethylene	–	–	–	–	–	–	–	–
Petroleum	0	–	–	–	0	–	0	–
Petroleum ether			–	–			0	
Phenol	+	+	–	–	+	+	+	0
Phenylethanol	0				0			
Phenylhydrazine	0				0			
Phosphoric acid, 85 %	+	+	+	0	+	+	+	+
Piperidine	+				+			
Potassium chloride	+	+	0	0	+	+	+	+
Potassium dichromate								
Potassium hydroxide	+	+	0	0	+	+	+	+
Potassium permanganate	+	+	+	+	+	+	+	+
Propanol	+	+	0		+	+	+	+
Propionic acid	+	0	0	–	+	0	0	–
Propylene glycol (propanediol)	+	+	+	+	+	+	+	+
Pyridine	0	0	–	–	+	0	+	0
Salicylaldehyde	+	+	–	–	+	+	+	+
Salicylic acid	+	+	+	+	+	+	+	+
Silver acetate	+	+	0	0	+	+	+	+
Silver nitrate	+	+	0	0	+	+	+	+
Sodium acetate	+	+	+	+	+	+	+	+
Sodium chloride	+	+	+	+	+	+	+	+
Sodium dichromate	+	+	+	0	+	+	+	+
Sodium fluoride	+	+	+	+	+	+	+	+
Sodium hydroxide, 30 %	+	+	+	+	+	+	+	+
Sulfuric acid, 60 %	+	+	–	–	+	+	+	+
Sulfuric acid, 98 %	–	–	–	–	0	–	0	–
Tartaric acid	+	+	+	+	+	+	+	+
Tetrachloroethylene								
Tetrahydrofuran (THF)	0	–	–	–	0	–	0	–
Tetramethylammonium hydroxide								
Toluene	0	–	–	–	0	0	0	–
Trichloroacetic acid	0	–	0	–	0	0	0	–
Trichlorobenzene	–	–	–	–	–	–	–	–
Trichloroethane	–	–	–	–	0	–	–	–
Trichloroethylene	–	–	–	–	0	–	–	–
Trichlorotrifluoroethane			–	–				
Triethanolamine			–	–				
Triethylene glycol	+	+	+	0	+	+	+	+
Trifluoroacetic acid (TFA)			–	–				
Trifluoro ethane			–	–				
Tripropylene glycol	+	+	+	+	+	+	+	+
Turpentine	–	–	–	–	0	–	0	–
Urea	+	+	+	+	+	+	+	+
Xylene	–	–	–	–	0	–	0	–
Zinc chloride, 10 %	+	+	+	+	+	+	+	+
Zinc sulfate, 10 %	+	+	+	+	+	+	+	+

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51 41 505	66	52 20 023	69	56 15 003	40	60 18 604	61	82 00 002	55		
51 41 751	66	52 20 024	69	56 15 004	40	60 18 605	61	82 00 003	55		
51 41 752	66	52 20 025	69	56 15 020	40	60 18 606	61	82 00 004	55		

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