



Austria

VWR International GmbH
Graumannsgasse 7
1150 Wien
Tel.: 01 97 002 0
Fax: 01 97 002 600
E-mail: info@at.vwr.com

Belgium

VWR International bvba
Researchpark Haasrode 2020
Geldenaaksebaan 464
3001 Leuven
Tel.: 016 385 011
Fax: 016 385 385
E-mail: customerservice@be.vwr.com

Czech Republic

VITRUM Praha, spol. s r.o.
A VWR International Company
Pražská 442
CZ - 281 67 Strábrná Skalce
Tel.: +420 321 570 321
Fax: +420 321 570 320
E-mail: praha@vitrum.cz

Denmark

VWR - Bie & Berntsen
Transformervej 8
2730 Herlev
Tel.: 43 86 87 88
Fax: 43 86 87 90
E-mail: info@dk.vwr.com

Finland

VWR International Oy
Valimotie 9
00380 Helsinki
Tel.: 09 80 45 51
Fax: 09 80 45 52 00
E-mail: info@fi.vwr.com

France

VWR International S.A.S.
Le Périgares – Bâtiment B
201, rue Carnot
94126 Fontenay-sous-Bois cedex
Tel.: 0 825 02 30 30 (0,15 EUR TTC/min)
Fax: 0 825 02 30 35 (0,15 EUR TTC/min)
E-mail: info@fr.vwr.com

Germany

VWR International GmbH
Hilpertstrasse 20a
D - 64295 Darmstadt
Tel.: 0180 570 20 00*
Fax: 0180 570 22 22*
E-mail: info@de.vwr.com
*0,14 €/Min. aus d. dt. Festnetz,
Mobilfunk max. 0,42 €/Min.

Hungary

VWR International Kft.
Simon László u. 4.
4034 Debrecen
Tel.: (52) 521-130
Fax: (52) 470-069
E-mail: info@hu.vwr.com

Ireland / Northern Ireland

VWR International Ltd /
VWR International (Northern Ireland) Ltd
Orion Business Campus
Northwest Business Park
Ballycoolin
Dublin 15
Tel.: 01 88 22 222
Fax: 01 88 22 333
E-mail: sales@ie.vwr.com

Italy

VWR International PBI S.r.l.
Via San Giusto 85
20153 Milano (MI)
Tel.: 02-3320311/02-487791
Fax: 800 152999/02-40090010
E-mail: info@it.vwr.com
info@internationalpbi.it

The Netherlands

VWR International B.V.
Postbus 8198
1005 AD Amsterdam
Tel.: 020 4808 400
Fax: 020 4808 480
E-mail: info@nl.vwr.com

Norway

VWR International AS
Haavard Martinsens vei 30
0978 Oslo
Tel.: 02290
Fax: 815 00 940
E-mail: info@no.vwr.com

Poland

Labart Sp. z o.o.
A VWR International Company
Limbowa 5
80-175 Gdansk
Tel.: 058 32 38 200 do 204
Fax: 058 32 38 205
E-mail: labart@pl.vwr.com

Portugal

VWR International - Material de
Laboratório, Lda
Edifício Neopark
Av. Tomás Ribeiro, 43- 3 D
2790-221 Carnaxide
Tel.: 21 3600 770
Fax: 21 3600 798/9
E-mail: info@pt.vwr.com

Spain

VWR International Eurolab S.L.
C/ Tecnología 5-17
A-7 Llinars Park
08450 - Llinars del Vallès
Barcelona
Tel.: 902 222 897
Fax: 902 430 657
E-mail: info@es.vwr.com

Sweden

VWR International AB
Fagerstagatan 18a
163 94 Stockholm
Tel.: 08 621 34 00
Fax: 08 621 34 66
E-mail: info@se.vwr.com

Switzerland

VWR International GmbH
Lerzenstrasse 16/18
8953 Dietikon
Tel.: 044 745 13 13
Fax: 044 745 13 10
E-mail: info@ch.vwr.com

UK

VWR International Ltd
Customer Service Centre
Hunter Boulevard
Magna Park
Lutterworth
Leicestershire
LE17 4XN
Tel.: 0800 22 33 44
Fax: 01455 55 85 86
E-mail: uksales@uk.vwr.com

China

VWR International China Co., Ltd
Suite 3B02, Qilai Building, No. 889
Yishan Road
Shanghai 200233, China
Tel.: +86- 21 521 388 22
Fax: +86- 21 521 33 933
E-mail: sales_china@vwr.com

India

VWR Lab Products Pvt. Ltd
2nd Floor, Front Wing,
135/12, Brigade Towers
Brigade Road
Bangalore 560025 India
Tel.: +91-2522-647911/922 (Mumbai)
Tel.: +91-80-41117125/26 (Bangalore)
Fax: +91-80-41117120
E-mail: vwr_india@vwr.com

Singapore

VWR Singapore Pte Ltd
18 Gul Drive
Singapore 629468
Tel.: +65 6505 0760
Fax: +65 6264 3780
E-mail: sales@sg.vwr.com



ALL YOU NEED – FOR DAIRY



VWR INTERNATIONAL ALL YOU NEED FOR DAIRY

Sample Collection

Sample Preparation

Microbiology Laboratory Equipment

Microbiology Laboratory Essentials

Microbiology Laboratory Media

Molecular Microbiology

Analytical Laboratory Equipment

Analytical Laboratory Essentials

Analytical Laboratory Chemicals

GO TO VWR.COM FOR THE
LATEST NEWS, SPECIAL OFFERS
AND DETAILS OF YOUR LOCAL
VWR DISTRIBUTOR





INTRODUCTION

Congratulations with the receipt of our VWR All you need for the Dairy Industry guide.
All the changes and expansions in this important Industry have made us decide to make your essential portfolio of laboratory- production- and quality assurance products immediately available when using this guide.

This guide shows the products that can be used from sampling through to quality control of the finished product and is intended to help you save valuable time searching for the products you routinely use. As well as containing items required for specific tests and research.

VWR; Your one stop shop for chemicals, consumables, equipment and services.
In addition VWR can provide you with a complete range of safety, personal protection and waste disposal products. We offer a broad range of technical-, validation- and e-business services that can help you optimise your logistic and purchasing services.

Want easy ordering and stock management systems? VWR is here to help.
Want to optimise your ordering processes and stock levels? Our webshop is the tool that does all that. Helping you by creating purchaselists, approval flows It even creates virtual storeroom with automated replenishment.

This brochure can only give you a flavour of what is available. Complete product listings are available on our webshop, in our catalogues and specialist brochures.

Visit our dedicated microsites on vwr.com for a full range of:

Food & Beverage testing



Safety & Cleaning



VWR Collection



Our website contains all the products we offer and has a powerful search engine with advanced search filters to make life easy.

TABLE OF CONTENTS

Sample Collection. 2

Sample Preparation 20

Microbiology Laboratory Equipment 58

Microbiology Laboratory Essentials 72

Microbiology Laboratory Media. 118

Molecular Microbiology 130

Analytical Laboratory Equipment. 164

Analytical Laboratory Essentials. 188

Analytical Laboratory Chemicals 218

The VWR Technical Service team offers a wide range of servicing options to support your laboratory equipment

In the VWR repair centres across Europe, our expert teams of manufacturer trained technicians can repair small equipment and measuring instruments. These highly equipped workshops handle every brand, every type of model, even those not sold by us, minimising your downtime and providing a professional, cost effective and timely solution. Repairs can be followed with a calibration procedure to make sure that your equipment is in compliance with GMP/GLP and FDA regulations.

We have an extensive knowledge and a wide range of manufacturer original spare parts to re-invigorate the following equipment:

- pH meters
- Conductivity meters
- Turbidity meters
- Shakers
- Mixers
- Stirrers
- Hotplates
- Heating baths
- Dataloggers
- Pumps
- Spectrophotometers
- Air samplers
- Centrifuges
- Balances
- Autoclaves
- Refrigerators
- Incubators
- etc...

SPECIALIST SERVICES

Air sampler calibration services

Air samplers are key to any environmental monitoring programme, so regular checking of the volume of aspirated air is imperative to ensure that there are no errors in the monitoring of contamination. VWR has a comprehensive calibration and service programme on air samplers. We recommend performing the air sampler's calibration every 6 - 12 months and also if the air sampler has potentially been damaged or the flow rate has been compromised.

Brand independent calibration and adjustment of thermometers and dataloggers

Our fast, efficient and competitive service provides calibration, adjustment and repair services for all brands and models both with and without accreditation. Our tailored services can meet any specific calibration demand you may have. All calibration services are directly traceable to a National Measurement Standard or can be certified with ISO 17025:2005 accreditation. Every calibrated thermometer or datalogger is provided with a calibration certificate.



VWR provides a unique combination of service and support for all your centrifuges

As the condition of a centrifuge is critical for the most essential tasks in the laboratory, we have developed a complete service solution for centrifuges; from installation, after sales and compliance services to spare parts. Our experienced technicians are trained and certified by all major centrifuge manufacturers and we only use original spare parts supplied by the centrifuge manufacturer, so you can rest assured your centrifuge is being serviced to the highest standard.

Centrifuge services

Installation: Check the environmental conditions, the marking of the equipment, documentation, installation conforms to manufacturer's instruction, operating instructions and test run

Preventive maintenance: Check the rotor, rotor chamber, unit, drive, compressor, the electrical system and test run

Calibration: Timer, speed and temperature calibration

Qualification IQ/OQ/PQ: Performed according to the supplier's operating procedures

Electrical safety test: Safety test according to norms EN/IEC 61010 and additional safety tests according to any other local norms, check the environmental conditions and visual safety test

Rotor check: Performed according to the supplier's operating procedures



VWR's multi-brand pipette calibration and maintenance is accurate and reliable

VWR's pipette services is our total care programme for pipette calibration and service of single and multichannel pipettes, steppers, burettes, volumetric glassware, titrators and other liquid handling equipment. To remain compliant, regular pipette calibration is required by GLP, GMP, FDA and ISO.

A complete service solution – in-house or on-site

VWR's calibration service of pipettes, steppers, burettes and volumetric glassware covers:

- Calibration procedures according to ISO 8655/ISO 4787
- Adjustment
- Preventative maintenance
- Corrective maintenance/repair
- Troubleshooting and diagnosis
- Calibration certificate
- Due time reminder system

We set the highest standards – officially trained technicians and full ISO 17025 accredited facilities

- Calibration according to ISO 8655
- Genuine spare parts for repairs
- Accredited Competence Centre compliant with ISO 17025
- VWR technicians fully certified and trained by the manufacturers

Traceable from beginning to end...

Every calibration is registered with a free calibration certificate including the individual calibration results. If an accredited calibration according ISO/IEC 17025 is required the certificate is provided with the accreditation logo which gives direct traceability to a National Standard. In case of an adjustment of your pipette you always receive two calibration certificates from us, one from before adjustment and one after.

For all **GLP laboratories** we perform an '**as found**' and an '**as left**' calibration. This means that we perform a calibration before preventative maintenance and after.

Every calibrated pipette gets a calibration label with calibration date and recalibration date. To keep your pipette in a calibrated status we have our due time reminder system. This system will inform you about the due-time to send the pipette in again for service.

VWR
PIPE SERVICES™



For more information on any of our technical and validation services, please contact your local VWR sales office.



Samplers	2
Bags	6
Bottles & Caps	8
Containers & Buckets	10
Swabs	15
Airsamplers	17
Hygiene	18

Sample Collection

Sampling ladles



- PP**
- For sampling of liquids.
- With pouring spouts on both sides

Capacity (ml)	Length (mm)	Pk	Cat. No.
27	200	300	216-4905

Samplers, single use



- Suitable for all industries (pharmaceutical, food, chemical, cosmetic, biotechnology, etc). Pre-sterilised versions available. Length 1000 or 500 mm, diameter 21 mm.
- Cross-contamination risk is eliminated
 - Assembled in a cleanroom environment
 - Economical - save time and money
- Packaging:** Each sampler is individually bagged, 20/box.

Description	For volume (ml)	Sterile	Pk	Cat. No.
Disposable PowderThief for sampling powders and granules				
HDPE, 500 mm	1	-	20	300-2028
HDPE, 500 mm	1	+	20	300-2029
HDPE, 500 mm	5	-	20	300-2030
HDPE, 500 mm	5	+	20	300-2031
HDPE, 500 mm	10	-	20	300-2018
HDPE, 500 mm	10	+	20	300-2019
HDPE, 500 mm	20	-	20	300-2020
HDPE, 500 mm	20	+	20	300-2021
HDPE, 1000 mm	1	-	20	300-2022
HDPE, 1000 mm	1	+	20	300-2023
HDPE, 1000 mm	5	-	20	300-2024
HDPE, 1000 mm	5	+	20	300-2025
HDPE, 1000 mm	10	-	20	300-2016
HDPE, 1000 mm	10	+	20	300-2017
HDPE, 1000 mm	20	-	20	300-2026
HDPE, 1000 mm	20	+	20	300-2027
Disposable LiquiThief for sampling low viscosity liquids (e.g. water)				
HDPE, 500 mm	100	-	20	300-2002
HDPE, 500 mm	100	+	20	300-2003
PP, 500 mm	100	-	20	300-2005
HDPE, 1000 mm	190	-	20	300-2000
HDPE, 1000 mm	190	+	20	300-2001
PP, 1000 mm	190	-	20	300-2004
Disposable ViscoThief for sampling creams and gels				
HDPE, 500 mm	100	-	20	300-2012
HDPE, 500 mm	100	+	20	300-2013
PP, 500 mm	100	-	20	300-2015
HDPE, 1000 mm	190	-	20	300-2010
HDPE, 1000 mm	190	+	20	300-2011
PP, 1000 mm	190	-	20	300-2014

Sampler, SiloPicker



Made of stainless steel, V4A. For sampling bulk goods at depths of up to 3.5 metres, depending on the density of the bulk goods to be sampled. Inserting the sampler into the bulk goods closes the collection chamber. At the desired depth, the collection chamber is opened by withdrawing the sampler, the chamber is filled and can be pulled out and emptied.

- Easy handling
- Sampler length 100 cm, may be extended up to 350 cm using extension rods
- Stainless steel V4A (1.4404)/ AISI 316 L



Description	Pk	Cat. No.
Sampler	1	300-1025
Accessories		
Description	Pk	Cat. No.
Extension rod 50 cm	1	300-1026
Extension rod 100 cm	1	300-1037
SiloPicker handle	1	300-0103
SiloPicker sample container	1	300-0105
Transport case	1	312-1141

Zone samplers



For sampling bulk goods, cross sectional samples can be taken from different sample depths. Suitable for use with a range of sample substrates from fine powder to coarse grain. Multi sampler has three or five separate chambers for taking samples at multiple depths in one action. Uno sampler has one chamber for taking a sample at one specified depth. All layer sampler has no chambers, three or five inlets and this allows one sample to be taken at multiple depths. Jumbo sampler has no chambers and three, five or seven inlets; with a 50 mm tube diameter this is ideal for larger grain sizes and quantities.

- Easy to clean, removable tip
- Colour coding (Multi and Uno samplers)
- Ultra-pure materials: Stainless steel V4A (1.4404)/AISI 316 L, PTFE or aluminium
- 3 lengths from 55 cm to 150 cm, Jumbo up to 250 cm
- Samplers have smallest possible gap between inner and outer tubes

Description	Length (cm)	Immersion depth (mm)	Chambers	Volume (ml)	Ø (mm)	Pk	Cat. No.
All layer samplers							
All layer sampler, V4A	55	430	3	70	25	1	312-0079
	85	710	3	130	25	1	300-0049
	150	1355	5	260	25	1	300-0050
All layer sampler, aluminium	55	430	3	70	25	1	312-1183
	85	710	3	130	25	1	312-1185
	150	1355	5	260	25	1	312-1184
Multi samplers							
Multi sampler, V4A/PTFE	55	430	3	14	25	1	312-1101
	85	710	3	17	25	1	312-1102
	150	1355	5	17	25	1	312-0077
Multi sampler, V4A	55	430	3	14	25	1	312-0080
	85	710	3	17	25	1	312-0081
	150	1355	5	17	25	1	312-0082
Multi sampler, aluminium	55	430	3	14	25	1	312-1111
	85	710	3	17	25	1	312-1112
	150	1355	5	17	25	1	312-1113
Uno samplers							
Uno sampler, V4A/PTFE	55	430	1	17	25	1	312-1131
	85	710	1	17	25	1	312-1132
	150	1355	1	17	25	1	312-0078
Jumbo samplers							
Jumbo sampler, all layer, open inner tube, aluminium	85	710	3	880	50	1	312-1121
	150	1355	5	1700	50	1	312-1122
	250	2355	7	2900	50	1	312-0084
Jumbo sampler, multi, closed chambers, aluminium/PTFE	85	710	3	390	50	1	300-0051
	150	1355	5	650	50	1	300-0052
	250	2355	7	910	50	1	300-0053



Accessories		
Description	Pk	Cat. No.
Transport case	1	312-1141
Quali-Paper, format 100×25 cm, for emptying collected samples	50	300-0112
Sealing sleeves for zone samplers, PP, sterilisable	1	300-0113
Sealing sleeves for zone samplers, PP, sterilisable	3	300-0114
Emptying device, stainless steel V2A, complete with three funnels	1	300-0058
Emptying funnel, separate, V2A	1	300-0059
Cleaning brushes, PVC/stainless steel, 25 mm Ø, length 400 mm	1	300-0109
Cleaning brushes, PVC/stainless steel, 25 mm Ø, length 600 mm	1	331-2173
Cleaning brushes, PVC/stainless steel, 25 mm Ø, length 800 mm	1	331-2172
Cleaning brushes, PVC/stainless steel, 25 mm Ø, length 1000 mm	1	331-2170
Cleaning brushes, PVC/stainless steel, 50 mm Ø, length 1000 mm	1	300-0110
Cleaning brushes, PVC/stainless steel, 50 mm Ø, length 3000 mm	1	300-0111

Samplers, Liquid-Sampler



Material V4A (1.4404). Sampler for thin to viscous liquids.

- Easy use with one handed operation
- With discharge funnel for safe filling of the sample bottles

Description	Capacity (ml)	Pk	Cat. No.
Opened/closed with thumb			
Liquid-Sampler, open with thumb, 32×460 mm	50	1	331-0032
Liquid-Sampler, open with thumb, 32×540 mm	100	1	331-0033
Opened/closed semi-automatically			
Liquid-Sampler, place onto bottle, 32×455 mm	50	1	331-0034
Liquid-Sampler, place onto bottle, 32×535 mm	100	1	331-0035

Milk powder sampler, Milky



Stainless steel construction. Developed for sampling milk powder. The collector is inserted into bags or casks and the sample is removed using a half-shell shaped lance. Insertion depth 385 mm, total length 480 mm, outer diameter approximately 28 mm.

- Sterilisable
- Stainless steel V4A (1.4404)/ AISI 316 L

Acc. EN ISO 707 and IDF (Int. Dairy Federation)

Description	Pk	Cat. No.
Sampler	1	300-0022

Hand-Drill, QualiRod



Conical hand-drill, conically shaped, with sharp cutting edges and a solid handle. Ideal to cut out samples from soft, paste-like substances (cheese, butter, clay, loam, soap, wax, etc.).

- Stainless steel V2A (1.4301)/ AISI 304
- Sterilisable
- Conforms to standards EN/ISO 707

Total length 175 mm, weight 96 g.

Description	Length (cm)	Immersion depth (mm)	Pk	Cat. No.
Hand-drill, conical	17,5	120	1	300-0018
Hand-drill, conical	17,5	170	1	300-0140

Hand-Drill, QualiRod



Cylindrical hollow drill with a sharp cutting edge, can easily be driven into paste-like and semi-solid substances. The samples cut out are subsequently removed with the appropriate push-rod ejector.



- Stainless steel V2A (1,4301)
- Sterilisable
- Inner Ø 8 mm, outer Ø 10 mm

Description	Length (cm)	Immersion depth		Pk	Cat. No.
		(mm)	Ø (mm)		
Hand-drill, cylindrical	26	200	8	1	300-0141

Cheese trier
Funke-Gerber



Chrome-nickel steel. Developed for sampling small cores and testing the readiness of cheeses without cutting them open. Ideal for use in milk-processing industries and cheese dairies.

- Black plastic handle
- Two different sizes available

Length (cm)	Immersion depth (mm)	Ø (mm)	Pk	Cat. No.
19	125	13	1	300-0143
20,5	140	19	1	300-0144
21	140	17	1	300-0145

Butter trier
Funke-Gerber



Chrome-nickel steel. Developed to the test the firmness and consistency of butter. For use in butter making industries.

- With metal handle for improved hygiene
- Two different sizes available

Length (cm)	Immersion depth (mm)	Ø (mm)	Pk	Cat. No.
34,3	255	23	1	300-0146
41	320	22	1	300-0147

Control seal, close-it® food



A control seal with an adhesive approved for use with foodstuffs. The strength of the adhesive is almost as powerful as that of the original. The adhesive complies with the European guidelines for foodstuffs. Just like the original, close-it® food has a barrier layer of aluminium foil. This means that close-it® food is suitable for sampling foodstuffs, pharmaceuticals, cosmetics, food additives, even frozen goods - in short, all applications where cleanliness is particularly important. Rolls contain 500 (95×95 mm) or 250 (150×150 mm) stickers.

- Adheres very firmly
- Can be written on

Description	Pk	Cat. No.
95×95 mm		
close-it® food 95×95 mm, printed red	1 Roll	312-0073
close-it® food 95×95 mm, blank, white	1 Roll	312-0074
150×150 mm		
close-it® food 150×150 mm, printed red	1 Roll	312-0075
close-it® food 150×150 mm, blank, white	1 Roll	312-0076

Bags, twist-seal



LDPE bags, manufactured and packaged in sterile conditions

Universal use for samples such as foods, liquids, grains, petroleum products, animal material, waste and soil samples.
Market segment: Environmental sampling (surface samples), carcass sampling, biomedical and pharmaceutical research, quality assurance procedures (QA/QC), food industry applications and clinical and veterinary medicine.



- Provide a secure, contaminant-free flexible container that ensures dependable analytical results
- Offers an economical and efficient way to collect, contain and carry samples
- Wire tab keeps bag open for filling
- Unique fold over system provides a temporary leakproof seal

Closure with 2 round wires, without write-on panel

Capacity (ml)	Thickness (µm)	Dimensions (mm)	Pk	Cat. No.
60	63	76×127	500	129-9831
150	63	76×178	500	129-9832
355	76	114×190	500	129-9833
450	63	114×229	500	129-9834
900	63	114×305	500	129-9835
1200	63	114×382	500	129-9836
650	76	140×229	500	129-9837
1500	76	140×382	500	129-9838
1650	76	178×305	250	129-9839

Closure with 2 round wires, with write-on panel

Capacity (ml)	Thickness (µm)	Dimensions (mm)	Pk	Cat. No.
60	63	76×127	500	129-9842
150	63	76×178	500	129-9843
450	63	114×229	500	129-9844
900	63	114×305	500	129-9845
650	76	140×229	500	129-9846
1650	76	178×305	250	129-9847

Closure with 1 round and 1 flat wire, without write-on panel

Capacity (ml)	Thickness (µm)	Dimensions (mm)	Pk	Cat. No.
150	63	76×178	500	129-9850
450	63	114×229	500	129-9851
900	63	114×305	500	129-9852
1200	63	114×382	500	129-9853
650	76	140×229	500	129-9854
1500	76	140×382	500	129-9855
1650	76	178×305	250	129-9856

Closure with 1 round and 1 flat wire, with write-on panel

Capacity (ml)	Thickness (µm)	Dimensions (mm)	Pk	Cat. No.
150	63	76×178	500	129-9859
450	63	114×229	500	129-9860
900	63	114×305	500	129-9861
650	76	140×229	500	129-9862
1650	76	178×305	250	129-9863

Jumbo type, strong, with 2 flat wires, without write-on panel

Capacity (ml)	Thickness (µm)	Dimensions (mm)	Pk	Cat. No.
3000	101	305×305	250	129-9876
4250	101	305×356	250	129-9877
5500	101	305×406	250	129-9878
6750	101	305×457	250	129-9879
8000	101	305×508	250	129-9880
10500	101	305×610	250	129-9881
13000	101	305×711	250	129-9882
15000	101	382×610	250	129-9883

Opaque bag: Closure with 2 round wires, with write-on panel

The Opaque TWIRL'EM® is used by the food, pharmaceutical and environmental industries. The black resin is a total light barrier that protects photo-sensitive substances, such as vitamins, chemicals and pharmaceuticals, or food supplements, plant extracts and biological tissues.

Capacity (ml)	Thickness (µm)	Dimensions (mm)	Pk	Cat. No.
450	63	114×229	500	129-9870

Safety Tabs bags: Closure with 2 round wires, with write-on panel

Capacity (ml)	Thickness (µm)	Dimensions (mm)	Pk	Cat. No.
150	63	76×178	500	129-9884
450	63	114×229	500	129-9885
650	76	140×229	500	129-9886
1650	76	178×305	250	129-9887

Safety Tabs bags: Closure with 2 round wires, with write-on panel, sterile version double bag

Capacity (ml)	Thickness (µm)	Dimensions (mm)	Pk	Cat. No.
810	76	114×305	1.000	129-9889

Safety Tabs bags: Closure with 1 round and 1 flat wire, without write-on panel

Capacity (ml)	Thickness (µm)	Dimensions (mm)	Pk	Cat. No.
1080	76	104×305	500	129-0417
1650	76	178×305	250	129-0418
2250	101	254×305	250	129-0010
4000	101	254×382	250	129-0011

Safety Tabs bags: Closure with 1 round and 1 flat wire, without write-on panel, sterile version double bag

Capacity (ml)	Thickness (µm)	Dimensions	Pk	Cat. No.
1650	101	178×305	1.000	129-9890

Safety Tabs bags: Closure with 1 round and 1 flat wire, with write-on panel

Capacity (ml)	Thickness (µm)	Dimensions (mm)	Pk	Cat. No.
450	63	114×229	500	129-9888
650	76	140×229	1.000	300-0106
1650	76	178×305	1.000	300-0107
2250	101	254×305	250	129-0012
4000	101	254×382	250	129-0013

Bags, zip seal



LDPE

For storage and transport of solid samples, tubes, spare parts and documents, available with and without writing field.

- Quick sealing with guide tracks on the pressure seal
- Transparent PE for easy identification of the contents
- Can be resealed repeatedly, flexible and tear-proof

L×W (mm)	Pk	Cat. No.
Single pocket without writing field		
60×40	1.000	129-0293
80×60	1.000	129-0294
100×70	1.000	129-0309
120×80	1.000	129-0295
150×100	1.000	129-0296
170×120	1.000	129-0297
220×160	1.000	129-0298
250×180	1.000	129-0299
300×200	1.000	129-0306
350×250	1.000	129-0307
400×300	1.000	129-0308
Single pocket with writing field		
40×60	1.000	129-0310
60×80	1.000	129-0311
70×100	1.000	129-0320
120×80	1.000	129-0312
100×150	1.000	129-0313
120×170	1.000	129-0314
160×220	1.000	129-0315
180×250	1.000	129-0316
200×300	1.000	129-0317
350×250	1.000	129-0318
300×400	1.000	129-0319
Single pocket sterile with writing field		
200×300	1.000	129-0325
Double pocket without writing field		
120×170	1.000	129-0321
160×220	1.000	129-0322
180×250	1.000	129-0323
200×300	1.000	129-0324



Bottles, wide mouth, with screw cap



LDPE, natural

Perfect for sample collection, storage and transport. Ideal for liquids, pastes and granular material. The wide mouth allows easy filling and cleaning. Without graduations.

- Good chemical resistance
- Leakproof, tough and versatile
- Suitable for packaging and storing food

Bottles with screw cap						
Capacity (ml)	Ø ext. (mm)	Height (mm)	Neck I-Ø (mm)	Neck Ø ext. (mm)	Pk	Cat. No.
50	39	77	24	32	10	215-5630
100	47	94	24	32	10	215-5631
250	63	119	31	40	10	215-5632
500	78	152	39	50	12	215-5633
1000	96	206	50	65	12	215-5634
1500	109	226	50	65	6	215-5635
2000	120	247	50	65	6	215-5636

Spare screw caps, LDPE natural colour				
Thread (mm)	For bottles (ml)	Pk	Cat. No.	
32	50/100	10	215-5646	
40	250	10	215-5647	
50	500	10	215-5648	
65	1000/1500/2000	10	215-5649	

Bottles, wide mouth, with screw cap, series 303

KAUTEX TEXTRON



LDPE, natural

Perfect for sample collection, storage and transport. Ideal for liquids, pastes and granular material. The wide mouth allows easy filling and cleaning. Without graduations.

- Good chemical resistance
- Leakproof, tough and versatile
- Suitable for packaging and storing food

Capacity (ml)	Thread (mm)	Ø ext. (mm)	Height (mm)	Pk	Cat. No.
50	32	39,0	76,0	50	215-9034
100	32	48,0	93,5	20	215-9035
200	40	59,0	114,0	10	215-9036
250	40	64,0	120,0	10	215-9037
300	40	67,5	128,0	10	215-9038
500	50	77,0	154,0	10	215-9039
750	50	88,0	173,0	5	215-9040
1000	65	95,0	205,0	4	215-9041
1500	65	108,0	226,0	4	215-9042
2000	65	120,0	247,0	1	215-3113

Spare screw caps

LDPE, natural

- Good chemical resistance
- Good thermal resistance
- Leakproof

Ordering information: Caps are only suitable for bottles 215-9034 to 215-9042 and 215-3113.

For bottles (ml)		Thread (mm)	Pk	Cat. No.
	50/100	32	1	215-0919
	200/250/300	40	1	215-3542
	500/750	50	1	215-3515
	1000/2000	65	1	215-3516

Sample bottles



Clear glass, for clamp closure

Bottles, without clamp closure		
Capacity (ml)	Pk	Cat. No.
50	1	215-2902
100	1	215-2903
200	1	215-2904
500	1	215-2905
Clamp closures		
Type	Pk	Cat. No.
with steel wire	1	215-2906
with stainless steel wire	1	215-2907

Flip-top vials



PP

Flip-top containers are ideal for use in applications involving storage and packaging of a wide range of liquids and solids.

- Leakproof
- Hinged lid

Type	Capacity (ml)	Ø×H (mm)	Cap size (mm)	Colour	Pk	Cat. No.
High profile	124	46,6×90,6	49,8	Clear	250	216-4904
Low profile	138	65,9×52,3	69,5	Clear	250	216-4908

Flip-top with locking tab

These vials are identical in construction to the standard flip-top vials with the addition of a lock seal tab that allows the user to lock the lid to the base of the container.

Type	Capacity (ml)	Ø×H (mm)	Cap size (mm)	Colour	Pk	Cat. No.
High profile	300	64,9×119,2	71	Clear	90	216-4907

Flip-top vials for DHIA and mastitis testing



Translucent PP

Aseptic, single-use sample vials for field collection of cow milk for mastitis evaluation and DHIA quality control. Suitable for food contact.

- Manufactured in a cleanroom
- Proprietary "in mould closing" process

Complies with CE norm No. 1935/2004

Packaging: A label on each box includes batch number and production date for traceability.

Type	Capacity (ml)	Ø×H (mm)	Cap size (mm)	Colour	Pk	Cat. No.
Cornell vial	10	26,2×54,0	33,6	Clear	500	216-0879
Vet vial	12	17,0×95,6	21,1	Clear	1.500	216-0880

Flip-top vials for dairy herd improvement testing



Translucent PP

Aseptic, single-use sample vials for field collection of cow milk for mastitis evaluation and DHIA quality control. Suitable for food contact.

- Manufactured in a cleanroom
- Proprietary "in mould closing" process
- Can be supplied with bronopol and barcode label

Complies with CE norm No.1935/2004

Packaging: A label on each box includes batch number and production date for traceability.

Type	Capacity (ml)	Ø×H (mm)	Cap size (mm)	Colour	Pk	Cat. No.
DHIA vial	35	30×70,1	33,6	Clear	900	216-0871
DHIA vial with bronopol tablet and barcode	35	33×69,7	30,0	Clear	900	216-0872
DHIA vial with bronopol tablet	35	33×69,7	30,0	Clear	900	216-0873

Flip-top vials for dairy herd improvement testing



Translucent PP
Aseptic, single-use sample vials for field collection of raw farm milk and DHIA quality control. Suitable for food contact.

- Manufactured in a cleanroom
- Proprietary "in mould closing" process
- Can be supplied with bronopol and barcode label

Complies with CE norm No.1935/2004
Packaging: A label on each box includes batch number and production date for traceability.

Type	Capacity (ml)	Ø×H (mm)	Colour	Pk	Cat. No.
High profile vial with bronopol gel	49	31,2×85,1	Clear	600	216-0874
High profile vial	49	31,2×85,1	Clear	600	216-4900
High profile vial with bronopol tablet	49	31,2×85,1	Clear	600	216-0875

Flip-top vials specific for aseptic sampling



Translucent PP
Aseptic, single-use sample vials for field collection of farm milk and related dairy products, veterinary specimen collection, infection control of mastitis and environmental sampling. Very efficient during storage and transport. Suitable for food contact.

- Manufactured in a cleanroom
- Proprietary "in mould closing" process
- Can be supplied on request with bronopol and/or barcode label

Complies with CE norm n° 1935/2004
Packaging: A label on each box includes batch number and production date for traceability.

Type	Capacity (ml)	Ø×H (mm)	Cap size (mm)	Colour	Pk	Cat. No.
Vial with large tab	270	78×75,6	81,5	Clear	120	216-4909
Snap seal vial with lock-tab	270	78×75,6	81,5	Clear	120	216-4910

Flip-top vials specific for aseptic sampling



Translucent PP
Aseptic, single-use quality control sample storage and food packaging vials for field collection of farm milk and related dairy products, veterinary specimen collection, infection control of mastitis and environmental sampling. Suitable for food contact.

- Manufactured in a cleanroom
- Proprietary "in mould closing" process
- Can be supplied with bronopol and/or barcode label on request

Complies with CE norm No.1935/2004
Packaging: A label on each box includes batch number and production date for traceability.

Type	Capacity (ml)	Ø×H (mm)	Cap size (mm)	Colour	Pk	Cat. No.
Solid top vial	75	36,4×85,6	40,3	Clear	400	216-4903

Flip-top vials



Translucent PP
Aseptic, single-use sample vials specifically designed to fit in the racks and transport carousels in use within Austria, Germany and Switzerland. Suitable for food contact.

- Manufactured in a cleanroom
- Proprietary "in mould closing" process
- Can be supplied with optional RFID reusable tag
- Can be supplied with automation concepts to insert and remove tags

Complies with CE norm No.1935/2004
Packaging: A label on each box includes batch number and production date for traceability.

MLP vials
Specific for quality and DHIA testing of milk.

Sample Collection

Containers & Buckets

- Ideally shaped for quality control and herd improvement purposes
- Filling lines at 12,5, 25 and 37,5 ml
- Can be supplied filled with bronopol tablet or bronopol gel
- Can be supplied with barcode label on the top of the lid

Type	Capacity (ml)	Ø×H (mm)	Cap size (mm)	Colour	Pk	Cat. No.
MLP vial	50	31,7×101,5	32,0	Clear	500	216-0876

QK vials

Specific for quality testing of milk on automatic samplers.

- Ideally shaped for payment and quality control on automatic truck needle samplers

Type	Capacity (ml)	Ø×H (mm)	Cap size (mm)	Colour	Pk	Cat. No.
QK vial	50	31,7×101,5	32,0	Clear	500	216-0877

Custody flip-top vials



PP

Unique custody containers feature a one-way, irreversible chain lock that secures the container once it is closed. To open after use, simply cut the chain lock with scissors.

- Transport and store sensitive materials and samples
- Guarantees the inviolability of custody storage of forensic evidence

Capacity (ml)	Ø×H (mm)	Cap size (mm)	Colour	Pk	Cat. No.
56	31,2×89,5	35,0	Clear	500	216-4901
343	64,8×118,5	68,5	Clear	90	216-4906
343	64,8×118,5	68,5	Black	90	216-0878

Straight sample containers with screw cap



PP translucent or PS clear, with PE screw cap

Straight walled vessels for sample collection, storage and transport. Twist closure with leakproof inner lip for quick opening and closing. PS offers good thermal and chemical resistance. PP offers excellent thermal and chemical resistance.

- Selection of colour coded closures for easier sample identification
- Available packed under sterile or aseptic conditions
- Five volumes are available: 40 ml, 60 ml, 100 ml, 125 ml and 180 ml

Dimensions:
40 ml: 30×70 mm (int.Ø×h)
60 ml: 33×70 mm (int.Ø×h)
100 ml: 52×67 mm (int.Ø×h)
125 ml: 52×74 mm (int.Ø×h)
180 ml: 52×102 mm (int.Ø×h)

Capacity (ml)	Cap colour	Cap	Material	Packed	Pk	Cat. No.
Aseptic						
40	White	Assembled	PS	Bag of 100, carton of 1000	1.000	216-2685
	Red	Assembled	PS	Bag of 100, carton of 1000	1.000	216-2693
	White	Assembled	PP	Bag of 100, carton of 1000	1.000	216-2689
	Red	Assembled	PP	Bag of 100, carton of 1000	1.000	216-2694
60	White	Assembled	PS	Bag of 70, carton of 700	700	216-2612
	White	Assembled	PP	Bag of 70, carton of 700	700	216-2620
	Red	Assembled	PS	Bag of 70, carton of 700	700	216-2683
	Red	Assembled	PP	Bag of 70, carton of 700	700	216-2684
	Screw cap with spoon, assembled		PP	Bag of 70, carton of 700	700	216-2622
100	White	Assembled	PS	Carton of 330	330	216-2582
	Green	Assembled	PS	Carton of 330	330	216-2584
	Red	Assembled	PS	Carton of 330	330	216-2583
	Blue	Assembled	PS	Carton of 330	330	216-2636
125	White	Assembled	PP	Carton of 380	380	216-2588
	Green	Assembled	PP	Carton of 380	380	216-2590
	Red	Assembled	PP	Carton of 380	380	216-2589
	Blue	Assembled	PP	Carton of 380	380	216-2634
180	White	Assembled	PS	Carton of 264	264	216-2603
	Green	Assembled	PS	Carton of 264	264	216-2605
	Red	Assembled	PS	Carton of 264	264	216-2604
	Blue	Assembled	PS	Carton of 264	264	216-2632
180	White	Assembled	PP	Carton of 264	264	216-2597
	Green	Assembled	PP	Carton of 264	264	216-2599
	Red	Assembled	PP	Carton of 264	264	216-2598
	Blue	Assembled	PP	Carton of 264	264	216-2630

Sterile						
40	Red	Assembled	PS	Bag of 100, carton of 1000	1.000	216-2686
	Red	Assembled	PP	Bag of 100, carton of 1000	1.000	216-2690
60	Red	Assembled	PS	Bag of 70, carton of 700	700	216-2613
	Red	Assembled	PP	Bag of 70, carton of 700	700	216-2621
100	Red	Assembled	PP	Bag of 1, carton of 500	500	216-2677
	White	Assembled	PS	Carton of 330	330	216-2591
	Green	Assembled	PS	Carton of 330	330	216-2584
	Red	Assembled	PS	Carton of 330	330	216-2592
125	Blue	Assembled	PS	Carton of 330	330	216-2635
	White	Assembled	PP	Carton of 380	380	216-2585
	Green	Assembled	PP	Carton of 380	380	216-2587
	Red	Assembled	PP	Carton of 380	380	216-2586
180	Blue	Assembled	PP	Carton of 380	380	216-2633
	White	Assembled	PS	Carton of 264	264	216-2600
	Green	Assembled	PS	Carton of 264	264	216-2602
	Red	Assembled	PS	Carton of 264	264	216-2601
180	Blue	Assembled	PS	Carton of 264	264	216-2631
	White	Assembled	PP	Carton of 264	264	216-2594
	Green	Assembled	PP	Carton of 264	264	216-2596
	Red	Assembled	PP	Carton of 264	264	216-2595
	Blue	Assembled	PP	Carton of 264	264	216-2629

Conical sample containers with snap-on lids



PP, natural colour

Conical containers for sample collection, storage and transport.

- Available in sterile or aseptic versions
- Raised graduations
- Leak-proof snap-on lid



Capacity (ml)	Type	Ø top/Ø bottom (mm)	Height (mm)	Packed	Pk	Cat. No.
200	Assembled snap-cap, sterile	62/54	88	Bag of 1, carton of 200	200	216-3953
	Without snap-cap, aseptic	62/54	88	Carton of 660	660	216-2696
	Separate snap-cap, aseptic	62/54	88	Carton of 660	660	216-2648
	Assembled snap-cap, sterile	62/54	88	Carton of 220	220	216-2649
	Assembled snap-cap, aseptic	62/54	88	Carton of 220	220	216-2650
400	Separate snap-cap, aseptic	85/72	100	Carton of 460	460	216-2651
	Assembled snap-cap, sterile	85/72	100	Carton of 185	185	216-2652
	Assembled snap-cap, aseptic	85/72	100	Carton of 185	185	216-2653
	Separate snap-cap, aseptic	105/96	130	Carton of 250	250	216-2639
1000	Assembled snap-cap, sterile	105/96	130	Carton of 80	80	216-2640
	Assembled snap-cap, aseptic	105/96	130	Carton of 120	120	216-2641
	Assembled snap-cap, sterile	105/96	105	Bag of 1, carton of 85	85	216-3952

Sample containers with snap-on caps



PP, clear or opaque white, with PE snap caps

Ideal for sampling, storage and transport of liquid and solid samples. Choice of non capped aseptic and capped ionised containers.

- Excellent shock resistance
- Tight seal
- 125 ml containers - graduated (25 ml) with frosted writing surface

Capacity (ml)	Type	Material	Ø top/Ø bottom (mm)	Height (mm)	Pk	Cat. No.
125	separate snap-cap, aseptic	PP	60/51	67	750	215-1306
	assembled cap, sterile	PP	60/51	67	300	215-1307
400	separate snap-cap, aseptic	PP, white	85/72	100	460	215-0793
1000	assembled cap, aseptic	PP, white	105/96	130	120	216-0417
	assembled cap, sterile	PP, white	105/96	130	80	216-4278

Buckets with snap-on lids



PP, opaque white

Recyclable, single use buckets for transport and deliveries; improve working conditions by eliminating washing and decanting tasks. Tamper evident straight and skirted lid.

- Resistant to chemical products
- Stackable and sturdy with plastic carrying handle
- Uncapped aseptic

Capacity (l)	Height (mm)	Ø top/Ø bottom (mm)	Pk	Cat. No.
3	139	184/170	80	216-0793
3,8	177	184/166	75	216-0794
5,7	195	210/191	45	216-0791
10,7	264	251/226	20	216-0792

Buckets, Nalgene®

Thermo Scientific



PP, white

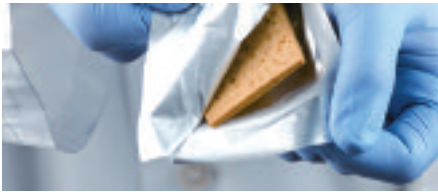
Universal multipurpose bucket without spout. With plastic covered carrying handle.

- Graduated
- Very good thermal and chemical resistance
- Autoclavable

Capacity (l)	Pk	Cat. No.
10,4	1	216-0094
13,2	1	216-0095



Surface sampling kits



The Surface Sampling Kit is designed to collect samples to detect the presence of microbiological contaminations such as *Listeria*, *Salmonella*, *E. coli*, and other foodborne pathogens on almost any surface. These kits are widely used in the food, medical, public health and cosmetic industries. Surface Sampling Kits come in two forms: Dry Sponge Sterile Sampling bag with write-on strip containing a dry, biocide-free cellulose sponge (38×76×16 mm when hydrated) or Wet Sponge Sterile Sampling bag accompanied by a foil-sealed, pre-moistened cellulose sponge, holding 10 ml of sterile neutralising buffer.



- All bags come with puncture-proof safety tabs, eliminating the sharp points that can cause bag puncture and/or abrasions
- Kits are sterilised using gamma irradiation
- Convenient and easy to use
- Help to eliminate several time-consuming steps

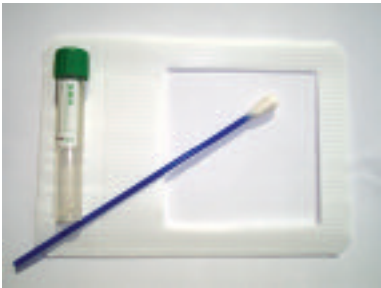
In accordance with HACCP, USDA, ACIA and CFIA requirements.

Dimensions: 114×229 mm.

Note: Gloves should be worn during all sampling procedures.

Description	Packed	Pk	Cat. No.
Dry sponge in a bag for 540 ml volume	4×100	400	710-1020
Pre-moistened sponge in a bag for 540 ml volume	4×50	200	710-1019

Swab rinse kits



Swab rinse kits (SRK) for microbiological examination of surfaces. The isotonic salt solution contains substances to neutralise and deactivate disinfectants and sanitising agents. The rinse solution is used to moisten the sterile swab before sampling and to transport the swab after collection.



- Can be used for microbial detection or quantitative analysis

Short SRK swabs (rayon tip, attached to the tube cap)

Each box contains 50 screw cap tubes. Swab shafts are attached to the tube caps.

Description	Packed	Length (mm)	Pk	Cat. No.
SRK rinse solution, 10 ml	single wrapped in plastic peel pouch	80	50	710-0477
SRK rinse solution, 10 ml	50 tubes/ box	80	50	710-0478

Long SRK swabs (14,6 cm - separate from cap)

Each box contains 25 pouches (each containing a tube and swab). Swabs are separate from cap.

Description	Packed	Length (mm)	Pk	Cat. No.
SRK rinse solution, rayon, 10 ml	tube and applicator in plastic peel pouch	146	25	710-0472
SRK rinse solution, alginate, 10 ml	tube and applicator in plastic peel pouch	146	25	710-0473
SRK rinse solution, rayon, 2,5 ml	tube and applicator in plastic peel pouch	146	25	710-0431
SRK rinse solution, alginate, 2,5 ml	tube and applicator in plastic peel pouch	146	25	710-0476

Large SRK swabs (19,50 cm long - separate from cap)

Each box contains 25 pouches (each containing a tube and swab). Swabs are separate from cap.

Description	Packed	Length (mm)	Pk	Cat. No.
SRK rinse solution, fibre tip rayon, 10 ml	tube and applicator in plastic peel pouch	195	25	710-0474
SSK square sampling kit, fibre tip rayon, 10 ml	tube, large applicator & sterile 10×10 cm template mask in sterile peel pouch	195	1 KIT	710-0475

SRK foam spatulas

Small spatula attached to cap. Large foam spatula, 22 cm long (612-2678).

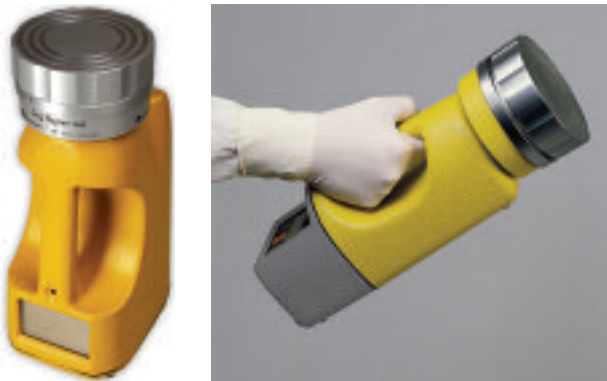
Description	Packed	Pk	Cat. No.
SRK rinse solution, 10 ml	in plastic peel pouch	50	612-2679
SRK without medium, short	in plastic peel pouch	50	612-2680
SRK, without medium, large	in plastic peel pouch	120	612-2678

SRK 471

Kit for bacteriological sampling of carcasses. Designed in accordance with EC directive 471/2001/EC. Eight plain swabs in tubes with blue shafts. Packed together with one tube of SRK rinse solution in a zip seal bag.

Description	Packed	Length (mm)	Pk	Cat. No.
SRK rinse solution, rayon, 10 ml	6×25 packs per case	145	150	710-0479

Air sampler, SAS Super



SAS Super is a complete system for the microbiological sampling of air including instrumentation for applications based on the active air sampling, accommodating one or two plates with culture medium. Specific models are designed to be used in cleanrooms classified according to ISO 14644-1, other instruments for open areas not classified by HACCP controls, for the SBS (Sick Building Syndrome) investigations or for the control of air conditioning HVAC (Heating Ventilation Air Conditioning). The same instrument can be used with standard RODAC plates 55 mm or with traditional 90 mm Petri dishes using simple accessories.

- Full compliant International Standards (ISO 14698 & USP 1116 Pharmacopeia)
- Designed for fast and consistent microbiological air sampling in controlled environments
- Time saving and low operating cost solutions

SAS Super IAQ

Designed specifically for Indoor Air Quality (IAQ) sector, this SAS instrument is particularly lightweight and durable to operate in any environment. Ideal for environmental hygienists and agri-food sector operators, SAS IAQ includes full equipment with remote control and carrying case. Derived from SAS Super ISO 100 and SAS Super ISO 180, SAS Super IAQ provides the same efficiency as recorded by the sampling tests conducted by CAMR-UK (Center for Applied Microbiology & Research) according to ISO 14698-1.

- The microbiological air monitoring solution for agri-food and environmental operators
- Full accessories equipped for microbiological air sampling
- Easy to use and low operating cost solutions

Delivery information: Aluminum aspirating head for Petri dishes Ø 90 mm or contact plates Ø 55 mm, battery charger, remote control and soft carrying case.

Airflow rate	100 l/min
WxDxH (mm)	105x110x290
Weight (kg)	1,75
Sampling head	Aluminium

Description	Pk	Cat. No.
SAS Super IAQ sampler for Petri dishes, 220 V/50 Hz	1	710-0868
SAS Super IAQ sampler for contact plates, 220 V/50 Hz	1	710-0919



Accessories

Description	For	Pk	Cat. No.
Adapter for Petri dishes Ø 90 mm	SAS Super IAQ, SAS Super ISO 180, SAS Super ISO 100, DUO SAS Super 360	1	710-0882
Aluminum aspirating head for contact plates Ø 55 mm		1	710-0892
Aluminum aspirating head for Petri dishes Ø 90 mm		1	710-0886
Aluminum carrying case	SAS Super IAQ, SAS Super ISO 180, SAS Super ISO 100	1	710-0875
Aluminium head and adaptor for Petri dishes Ø 90 mm	SAS Super IAQ, SAS Super ISO 100, SAS Super ISO 180, DUO SAS Super 360	1	710-0879
Floor tripod	SAS Super IAQ, SAS Super ISO 180, SAS Super ISO 100, DUO SAS Super 360	1	710-0889
Sterile daily head for contact plates Ø 55 mm		50	710-0890
Sterile daily head for Petri dishes Ø 90 mm		50	710-0891

Igientest HACCP



A simple quick test for hygiene control of work surface. Application fields: food industry, catering, dairy industry, health authority, HACCP consultants. The colorimetric scale to interpret the results is printed on each tube. The comparison between the solution colour and the colorimetric scale confirms if the surface is clean or dirty. It's enough to streak the wet swab on a surface and to insert the swab into the tube. Break the glass vial contained in the tube by using the clamp. At the end of the test the tube can be disposed as normal waste room temperature storage.

- Quick - results in only 10 minutes
- Simple to use
- Easy interpretation



Description	Pk	Cat. No.
Igientest HACCP surface hygiene monitoring test	1	710-0895
Clamp to break the glass vial of Igientest HACCP	1	710-0904



Filtration	20
Water Purification	24
Centrifugation	27
Mixing, Shaking & Stirring	29
Homogenising	38
Bunsenburners	42
Heating & Cooling	44
Melting	55

Sample Preparation

Funnels, with short stem



Borosilicate glass, grade 3.3

With smooth internal walls.

- Very good chemical resistance
- High temperature resistance
- Minimal thermal expansion giving relatively high resistance to temperature changes

ISO 4798

Funnel O-Ø (mm)	Stem O-Ø (mm)	For filter Ø (mm)	Stem length		Pk	Cat. No.
				(mm)		
35	6	45 - 55		35	2	221-0175
45	6	55 - 70		45	2	221-0176
55	8	70 - 90		55	2	221-0177
70	8	110 - 125		70	2	221-0178
80	10	125 - 150		80	2	221-0179
100	10	150 - 185		100	2	221-0180
120	16	185 - 240		120	2	221-0181
150	16	240 - 270		150	2	221-0182

Funnels, drum

VITLAB®



PP or HDPE, translucent

For filling containers with large quantities of liquid or powdered substances quickly.

- Very good (PP) or good (HDPE) chemical resistance
- Filter insert made from stainless steel/aluminium is available separately for 200 and 250 mm sizes.
- Quick and easy to clean

Material	Funnel O-Ø (mm)	Stem O-Ø (mm)	Length (mm)	Pk	Cat. No.
PP	200	22	200	1	221-1411
PP	250	30	260	1	221-1412
PP	350	35	440	1	221-1413
HDPE	400	42	365	1	221-1414
HDPE	430	37	420	1	221-1415

Accessories

Description	Pk	Cat. No.
Brass mesh, Ø 50 mm, for funnels 221-1411 and 221-1412	1	221-1416

Quantitative filter papers

Funke-Gerber



Round filter papers

Size (mm)	Pk	Cat. No.
Ø 32	1.000	512-0586

Filter papers with area for records, 80×45 mm

Size (mm)	Pk	Cat. No.
Ø 28	1.000	512-0587

Reference table for milk sediment tester

- With 3 purity grades, German standard

Pk	Cat. No.
1	512-0588



Filter funnels, MicroFunnel™ Plus



Product includes sample container and filter funnel all in one. No need to transfer sample from cup to disposable funnel and risk introducing contamination. Vented lid snaps on to the funnel to give a liquid tight seal and allows filtration without having to open the funnel.



Filtration area: 13,46 cm²
Max. temperature: GN-6 Metrical® and Metrical Black: ambient; Supor®: 90 °C
Ø×H: 100 ml: 61×76 mm with cover; 300 ml: 87×89 mm with cover

Membranes:
GN-6 Metrical®: Mixed cellulose esters, white
Supor®: Hydrophilic polyethersulfone, white
Metrical Black: Modified polyethersulfone, black

Packaging: Sterile, individually bagged.

Membrane	Capacity (ml)	Pore size (µm)	Pk	Cat. No.
GN-6 Metrical®, gridded	100	0,45	50	516-8964
GN-6 Metrical®, gridded	300	0,45	20	516-9337
Metrical Black, gridded	100	0,45	50	516-9890
Supor®, gridded	100	0,2	50	516-9891
Supor®, gridded	100	0,45	50	515-0055
Supor®, gridded	300	0,2	20	515-0051
Supor®, gridded	300	0,45	20	515-0052
Supor®, gridded (Plus AP)	100	0,2	50	515-0156
Supor®, gridded (Plus AP)	100	0,45	50	515-0157

Accessories			
Description	Pk	Cat. No.	
Autoclavable adapters for vacuum manifold when using rubber stopper	3	516-7706	
Lid kit accessory for culturing membrane in place	20	515-0172	

Disposable filter funnels, MicroFunnel™ ST



Convenient and economical choice for sterility testing within isolators. Ideal for quality control analysis of aqueous fluids used in pharmaceutical production and for testing microbial contamination.



Filtration area: 13,46 cm²
Max. temperature: GN-6 Metrical®: Ambient
Supor®: 90 °C
Ø×H: 100 ml: 61×76 mm with cover
300 ml: 87×89 mm with cover

Membranes:
GN-6 Metrical®: Mixed cellulose esters, white
Supor®: hydrophilic polyethersulphone, white

Membrane	Capacity (ml)	Pore size (µm)	Packed	Pk	Cat. No.
Supor®	100	0,45	Double bagged: 4 overpacks with 10 individual bagged funnels in each	40	516-9094
	300	0,45	Double bagged: 4 overpacks with 5 individual bagged funnels in each	20	516-9095
GN-6 Metrical®, gridded	100	0,45	Double bagged: 4 overpacks with 10 individual bagged funnels in each	40	516-9096
	300	0,45	Double bagged: 4 overpacks with 5 individual bagged funnels in each	20	516-9097

Vacuum filter holders

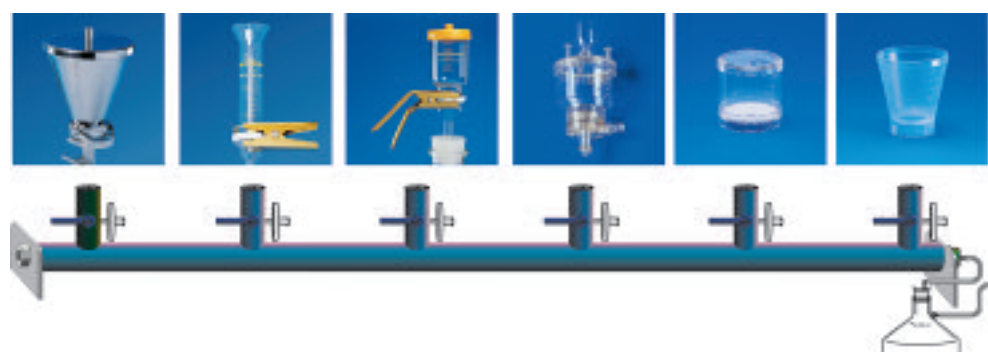


Aluminium, autoclavable
Only for MicroFunnel™ filtration systems.



Description	Pk	Cat. No.
1 place, for MicroFunnel™ and Microcheck®	1	516-0079
3 places, for MicroFunnel™ and Microcheck®	1	516-6940
6 places, for MicroFunnel™ and Microcheck®	1	516-6941

Vacuum filtration manifold
Sartorius Stedim Biotech



CombiSart manifolds

The CombiSart system enables you to select the optimal hardware and consumables for your needs in quality assurance. It features a modular design and field proven standard accessories to make your choice easier.

At the heart of the system is a stainless steel manifold designed to accomodate all types of filter holders and funnels such as:

- ready to use units, BioSart® 100 monitors and BioSart® 250 funnels
- stainless steel funnels that can be flame sterilised and used for colony counting
- autoclavable polycarbonate and glass filter holders

Description	Pk	Cat. No.
Single base for funnels	1	516-7030
Basic 3-branch manifold for funnels	1	516-7031
Basic 6-branch manifold for funnels	1	516-7032



Vacuum filtration manifold
Stainless steel, autoclavable

For colony and particle counting.

Filtration area: 12,5 cm²
For filter diameter: 47 or 50 mm

Delivery information: Manifold with funnels, lids, taps and connectors.

Description	Pk	Cat. No.
3-branch manifold with 3 funnels 100 ml	1	516-7025
3-branch manifold with 3 funnels 500 ml	1	516-7026
6-branch manifold with 3 funnels 100 ml	1	516-7028
6-branch manifold with 3 funnels 500 ml	1	516-7027

Funnels, BioSart® 250
Sartorius Stedim Biotech



Sterile disposable plastic funnels for colony and particle counting. To use with Sartorius membranes and culture media discs.



Capacity (ml)	Packed	Pk	Cat. No.
250	individually packed	50	512-3558
250	pack of 50	50	516-7024

Vacuum pumps, self-drying, LABOPORT® SD
KNF



Dry running, chemically resistant, two-stage displacement pumps for neutral, highly aggressive and corrosive gases and vapours and a constant vacuum. Uncontaminated transfer of process gas. The pumps are suitable for a wide range of applications in laboratories, especially where a clean vacuum is needed and moist gases must be evacuated, e.g. vacuum drying in vacuum drying ovens (for drying or heat-treating substances and components) or in vapour sterilisers for sterilising instruments, containers, filters and textiles. Because of its high resistance to aggressive media, the pump has universal applications. The drying system makes it possible to blow condensate liquid at high speed out of the pump heads during evacuation. The vacuum in the vacuum chamber remains constant. The drying cycle can be adapted individually to the requirements of a process by means of three variables. The pumps achieve a better vacuum after drying and evacuate significantly more quickly than pumps without a drying system.

- High vapour and condensate tolerance
- Chemically resistant, suitable for use with very aggressive and corrosive gases and vapours
- Maintenance-free
- Environmentally friendly; the pumps use no water and so produce no contaminated waste water

Model	N 820.3 FT.40.18	N 840.3 FT.40.18	N 842.3 FT 40.18	N 860.3 FT.40.18
Flow rate (l/min)	20	34	34	60
Final pressure (abs.) (mbar)	10	10	4	4
Working overpressure (bar)	1,0	1,0	1,0	1,0
Protection class	IP 44	IP 44	IP 44	IP 44
W×D×H (mm)	189×341×239	189×341×242	291×331×278	177×312×220
Weight (kg)	12,9	13,7	14,8	9,6

Flow rate at atmospheric pressure

Ordering information: Includes ready-to-connect, chemically resistant diaphragm vacuum pump with a mains switch, mains cable, fully automatic self-drying system and PTFE hose attachments for hoses with 12 mm internal diameter.

Model	Pk	Cat. No.
N 820.3 FT.40.18	1	181-3471
N 840.3 FT.40.18	1	181-3472
N 842.3 FT 40.18	1	181-3473
N 860.3 FT.40.18	1	181-3477

Water purification system, Elix® Advantage
Millipore



Produces Type II purified water from tap water

The Elix® Advantage uses potable tap water to provide consistent, reliable pure water (60 l/day). The water produced is ideal as feed water for Type I Milli-Q® water systems. The Elix® Advantage water system combines electrodeionisation (EDI) technology with additional purification technologies - Progard pretreatment cartridge, advanced reverse osmosis and an optional 254 nm UV lamp.

The system provides pressurised, bacteria-free pure water through the E-POD® (Elix Point-of-Delivery) units. Up to three E-POD units per system can be placed at convenient locations in the lab for easy and flexible water delivery.

The compact water production unit is adapted to laboratory space constraints and can be installed on the wall or under a sink, saving valuable bench space. The system is modular and easily adaptable to evolve with changes in the lab.

- Consistent water quality at optimum operating cost
- Exceptional ergonomic design, with E-POD® units for easy, convenient water dispensing
- System information (water quality data, system status, tank level, maintenance messages and water dispensing information) is displayed on the unit's main screen
- Data can be viewed on a PC

- Easy maintenance: Automatic self-cleaning functions; advanced warning of when pretreatment pack needs changing; unit registers the treatment pack for traceability and to protect against use of inappropriate pack type
- Integral boost pump and optional UV lamp

The Elix® Advantage system meets or exceeds requirements as described by ISO® 3696 (Grade 2 water); ASTM® D1193 (Type II resistivity and TOC Table I specifications); and by the United States, European and Japanese Pharmacopeias for purified water.

Model	Elix® Advantage 3	Elix® Advantage 5
Flow rate (l/min)	2,0 (pure water delivery at E-POD®)	2,0 (pure water delivery at E-POD®)
TOC content	<30 ppb	<30 ppb
Particle	<1 particulates/ml (>22 µm)	<1 particulates/ml (>22 µm)
Resistivity at +25 °C	5 MΩ.cm	5 MΩ.cm
WxDxH (mm)	346×484×500 POD delivery unit dimensions (D×H): 230×579	346×484×500 POD delivery unit dimensions (D×H): 230×579
Weight (kg)	26,4 (POD unit operating weight: 4,7)	24,6 (POD unit operating weight: 4,7)

Delivery information: Elix units are supplied without purification pack.

Description	Pk	Cat. No.
Elix® Advantage (3 l/hour), water purification kit, pre-equipped for E-POD® unit (EU-plug, manual in French and Flemish)	1	171-0595
Elix® Advantage (3 l/hour), water purification kit, pre-equipped for E-POD® unit (EU-plug, manual in Danish)	1	171-0596
Elix® Advantage (3 l/hour), water purification kit, pre-equipped for E-POD® unit (EU-plug, manual in English)	1	171-0597
Elix® Advantage (3 l/hour), water purification kit, pre-equipped for E-POD® unit (EU-plug, manual in French)	1	171-0598
Elix® Advantage (3 l/hour), water purification kit, pre-equipped for E-POD® unit (EU-plug, manual in German)	1	171-0600
Elix® Advantage (3 l/hour), water purification kit, pre-equipped for E-POD® unit (EU-plug, manual in Italian)	1	171-0601
Elix® Advantage (3 l/hour), water purification kit, pre-equipped for E-POD® unit (EU-plug, manual in Portuguese)	1	171-0602
Elix® Advantage (3 l/hour), water purification kit, pre-equipped for E-POD® unit (EU-plug, manual in Spanish)	1	171-0603
Elix® Advantage (3 l/hour), water purification kit, pre-equipped for E-POD® unit (CH-plug, manual in German and French)	1	171-0604
Elix® Advantage (3 l/hour), water purification kit, pre-equipped for E-POD® unit	1	171-0605
Elix® Advantage (3 l/hour), water purification system, pre-equipped for E-POD® unit (UK-plug, manual in English)	1	171-0606
Elix® Advantage (3 l/hour), water purification kit, pre-equipped for E-POD® unit	1	171-0607
Elix® Advantage (5 l/hour), water purification kit, pre-equipped for E-POD® unit (EU-plug, manual in French and Flemish)	1	171-0631
Elix® Advantage (5 l/hour), water purification kit, pre-equipped for E-POD® unit (EU-plug, manual in Danish)	1	171-0632
Elix® Advantage (5 l/hour), water purification kit, pre-equipped for E-POD® unit (EU-plug, manual in English)	1	171-0633
Elix® Advantage (5 l/hour), water purification kit, pre-equipped for E-POD® unit (EU-plug, manual in French)	1	171-0634
Elix® Advantage (5 l/hour), water purification kit, pre-equipped for E-POD® unit (EU-plug, manual in German)	1	171-0635
Elix® Advantage (5 l/hour), water purification kit, pre-equipped for E-POD® unit (EU-plug, manual in Italian)	1	171-0636
Elix® Advantage (5 l/hour), water purification kit, pre-equipped for E-POD® unit (EU-plug, manual in Portuguese)	1	171-0637
Elix® Advantage (5 l/hour), water purification kit, pre-equipped for E-POD® unit (EU-plug, manual in Spanish)	1	171-0638
Elix® Advantage (5 l/hour), water purification kit, pre-equipped for E-POD® unit (EU-plug, manual in German and French)	1	171-0639
Elix® Advantage (5 l/hour), water purification kit, pre-equipped for E-POD® unit	1	171-0630
Elix® Advantage (5 l/hour), water purification system, pre-equipped for E-POD® unit (UK-plug, manual in English)	1	171-0611
Elix® Advantage (5 l/hour), water purification kit, pre-equipped for E-POD® unit	1	171-0640
Elix® Advantage (15 l/hour), water purification kit, pre-equipped for E-POD® unit (EU-plug, manual in French)	1	171-0643

Cartridges	Pk	Cat. No.
Description		
Progard cartridge	1	171-0378
Progard S2 pretreatment pack + vent filter for 30 l tank	1	171-0590
Q-Gard® T1 Purification Pack (Elix® RO distilled feed)	1	172-0010
Q-Gard® T3 Purification Pack (DI feed with high silt)	1	171-0591
VOC-Pak for the production of 300 l of VOC-free water	1	171-0592

Accessories		
Description	Pk	Cat. No.
Vent filter for 30 l tank	1	172-5096
Millipak® Express 40 filter unit, 0,22 µm membrane, non sterile, for particulate and bacteria removal	1	172-0009
Dispenser E-POD	1	171-0594
Dispenser Q-POD	1	171-0593
ASM (Automatic Sanitisation Module): Decontamination module for PE reservoirs with regular UV light emission inside the reservoir to prevent bacteria development	1	171-0395
Wall mounting bracket for ultrapure water systems	1	171-0133
Wall mounting bracket for 30 l, 60 l or 100 l tank	1	171-0054
30 l PE pure water storage reservoir	1	171-0053
60 l PE pure water storage reservoir	1	171-0713
100 l PE pure water storage reservoir	1	171-0714
Q-POD® and E-POD® wall mounting bracket	1	171-0231
Kit Elix® Advantage SAV (for France)	1	171-0599
Startpack kit cartridge	1	171-0641
Kit Elix® Advantage SAVT (for France)	1	171-0626
Chlorine tablets	45 Tab.	171-0755

Water purification systems, arium® EDI 61215
Sartorius Stedim Biotech



The compact arium® EDI 61215 laboratory water purification system is designed to produce ASTM Type II water for general laboratory applications. The arium® EDI 61215 guarantees constant water quality and high economy for daily laboratory use, delivering purified water at a rate of at least 15 l/hr and retaining 99% of single and multiple-charged ions as well as bacteria and viruses. The powerful RO membranes reduce loss of water, ensuring excellent quality of the purified water and a high retention rate of the constituents in the feed water. It can be used for reagent preparation, electrophoresis, pharmaceutical applications, microbiological media and buffer preparation, general biotechnology applications, rinsing glassware, feed water for ultrapure water systems and for humidifiers, autoclaves and glassware washers.

- Four line alphanumeric display and simple menu navigation
- Production capacity up to 360 litres per day and the water produced is stored in open gravity or closed pressurised tank
- Automatic RO membrane back-flush with RO permeate
- Several alarm and service functions
- Serial interface RS232 and PLC interface for external communication

Feed water	Potable water only (feed water must meet EU drinking water standards).
Flow rate (l/h)	15
TOC value	<30 ppb*
Resistivity at 25 °C (MΩ)	5 - 15*
Bacteria	<1 CFU/1000 ml**
Dissolved organics (>300 MW)	>99%
Microorganisms	>99%
Particles	<1/ml**
Monovalent ions	Up to 98%
Polyvalent ions	Up to 99%
W×D×H (mm)	430×334×480
Weight (kg)	20

Delivery information: The complete system includes the arium® 61215 module, two reverse osmosis modules, two pretreatment cartridges, the pressurised water storage tank and sanitising syringes for the RO modules and the tank.

* Depends on feed water quality, temperature and storage tank

** With Sartopore® 2 150 final filter

Description	Pk	Cat. No.
Complete arium® EDI 61215, Type II, EDI stack, 30 l tank	1	171-0946
Complete arium® EDI 61215, Type II, EDI stack, 50 l tank	1	171-0397
Complete arium® EDI 61215, Type II, EDI stack, 70 l tank	1	171-0947
Complete arium® EDI 61215, Type II, EDI stack, 100 l tank	1	171-0948

Spare parts		
Description	Pk	Cat. No.
Pretreatment packs	2	171-0930
RO module	2	171-0931
Sanitisation kit for the tank (2 syringes)	2	171-0907
Sanitisation module kit for RO modules, 2 syringes	1	171-0945

Reverse osmosis systems, arium® 61316

Sartorius Stedim Biotech



This compact laboratory water purification system is designed to produce RO water for general laboratory applications, including feed water for ultrapure water systems, rinsing glassware and laboratory vessels, and feed water for humidifiers, autoclaves and glassware washers. With production volumes up to 16 l/h and up to 99% rejection rates of ions, bacteria and viruses, an automated RO membrane 'back-washing' and a constant flow rate, the arium® 61316 system is the ideal choice for daily laboratory needs.

- Efficient RO membranes reduce water wastage and provide excellent water quality, whilst ensuring high retention rates
- With the closed and pressurised tanks supplied with each system, the RO water is discharged at a maximum pressure of 3 bar without an additional discharge pump
- Easy to use; four line alphanumeric display and simple menu navigation
- Pretreatment cartridge and RO modules are easy to change

Ordering information: The complete system includes the arium® 61316 module, two reverse osmosis modules, two pretreatment cartridges, the pressurised water storage tank and sanitising syringes for the RO modules and the tank.

Feed water	Potable water only (feed water must meet EU drinking water standards)
Flow rate (l/h)	16*
Conductivity	<20 µs/cm*
Monovalent ions	Up to 98%
Polyvalent ions	Up to 99%
Bacteria	<1 CFU/1000 ml**
Particles	<1/ml (99%)**
Microorganisms	>99%
Dissolved organics (>300 MW)	>99%
W×D×H (mm)	430×334×480
Weight (kg)	15 (system only), 22 (in operation)

* Depends on feed water quality and temperature

** With Sartopore® 2 150 final filter

Description	Pk	Cat. No.
Complete RO system, arium® 61316, with 30 l tank capacity	1	171-0938
Complete RO system, arium® 61316, with 50 l tank capacity	1	171-0398
Complete RO system, arium® 61316, with 70 l tank capacity	1	171-0936
Complete RO system, arium® 61316, with 100 l tank capacity	1	171-0939

Individual units and accessories		
Description	Pk	Cat. No.
arium® 61316 basic model, without RO module and tank	1	171-0937
Sanitisation kit for the tank (2 syringes)	2	171-0907
Tank for arium 61316 RO, 100 l	1	171-0941
Tank for arium 61316 RO, 70 l	1	171-0943
Tank for arium 61316 RO, 30 l	1	171-0942
Tank for arium 61316 RO, 50 l	1	171-0332
Pretreatment packs	2	171-0930
Two RO modules for arium	2	171-0944

Multipurpose centrifuge for dairy laboratory, SuperVario-N
Funke-Gerber



Bench top centrifuge with high versatility, offering 4 sets of programmes: Dr. N. Gerber's method or Babcock's method (determination of fat content), Roese-Gottlieb's (determination of fat content, reference method), and Solubility (determination of powdered milk solubility)

- Stainless steel housing
- Programmable rotor speed from 600 to 1130 min⁻¹ (77 to 372×g) in increments of 10 min⁻¹
- Programmable heater up to +68 °C in increments of 1 °C
- Programmable centrifugation time from 1 to 99 minutes
- Automatic lid locking, imbalance switch-off, automatic brake

Temperature (°C)	up to +68 °C
Max. capacity	Head A: 36 butyrometer buckets or 18 Babcock buckets Head B: 8 Mojonnier tubes Head C: 6 solubility index tube buckets
Max. speed (min ⁻¹)	1130
Max. RCF (×g)	372
Power supply	230 V / 50-60 Hz / 1200 VA
Timer	1 - 99 min
Weight (kg)	26

Description	Pk	Cat. No.
Multipurpose centrifuge SuperVario-N	1	614-0174
Safety centrifuge SuperVario-N for fat content determination, with Centrifugation Head B (radius: 190 mm)	1	614-0175

Accessories		
Description	Pk	Cat. No.
Butyrometer buckets (set of 12)	12	614-0165
Butyrometer buckets (set of 24)	24	614-0166
Butyrometer buckets (set of 36)	36	614-0167
Butyrometer bucket	1	614-0164
Babcock bucket	1	614-0168
Bucket for ADPI tube	1	614-0169
Centrifuge Head A for 36 butyrometer buckets or 18 Babcock buckets, radius: 260 mm	1	614-0176
Centrifuge Head B for 8 Mojonnier tubes, radius: 190 mm	1	614-0177
Centrifuge Head C for 6 solubility index tube buckets, radius: 190 mm	1	614-0178

Centrifuge for fat content determination, Nova Safety
Funke-Gerber



Robust, reliable centrifuge used for the determination of fat content according to Dr. N. Gerber's method or the determination of powdered milk solubility.

- Heater with thermostatic setpoint at +65 °C
- Digital centrifugation timer
- Automatic lid locking
- Automatic brake (braking time <8 s)

Max. speed (min ⁻¹)	350
Max. RCF (×g)	350
W×D×H (mm)	380×470×230
Weight (kg)	13

Description	Pk	Cat. No.
Nova Safety centrifuge for fat content determination	1	614-2061

Accessories		
Description	Pk	Cat. No.
Replacement tube for butyrometer, brass, with flanged edge, ext./int. Ø×L: 27/25,8×170 mm	1	614-0173

Homogenisation pipette
Funke-Gerber

Glass, 2 marks (5 and 25 ml), with stopper
External Ø: 24 mm
Length without stopper: 152 mm

Description	Pk	Cat. No.
Homogenisation pipette, glass, 2 marks (5 and 25 ml), with stopper	1	614-0172

Centrifuge tube

Funke-Gerber



Glass
With 2 stoppers according to Frieese´s method.

Pk	Cat. No.
1	709-0107

Laboratory mixer, Sterilmixer 12



The Sterilmixer 12 is ideal for processing infected items or for aseptic work in a sterile environment. The mixer is designed for high speed mixing, emulsion and disintegration of liquids, fluid suspensions or semi-solid substances. The unit has interchangeable leakproof containers and all parts that come into contact with samples can be sterilised by steam or autoclave.



- Speed is easy to control by means of buttons on front
- 12 different speeds from 12 500 to 18 000 min⁻¹ in increments of 500 min⁻¹
- Pulse function
- Easy to dismantle, clean and sterilise
- Various optional container sizes and materials to cover all laboratory needs, including autoclavable containers are available

Delivery information: Supplied with stainless steel asymmetrical blades, base plate fixing system, sealing ring, glass container and plastic cover. Requires 220 V power supply. Other containers and accessories are available. Accessories must be ordered separately.

Description	Revolutions (min ⁻¹)	Pk	Cat. No.
Sterilmixer 12	12500 - 18000*	1	710-0883

* in 500 min⁻¹ increments

Homogeniser, T 18 basic ULTRA-TURRAX®
IKA



Stand model, volume range 1 to 1500 ml

A wide speed range allows you to work at high circumferential speeds.



- Quick release button for dispersing element
- Electronic speed control
- Electronic overload protection
- Equipped with connection for a revolution counter as standard

IP protection class according to DIN EN 60529: IP 20

Motor rating input/output (W)	500/300
Volume H ₂ O (ml)	1 - 1500
Max. viscosity (mPas)	5000
Speed range (min ⁻¹)	3500 - 24000
Speed display	Scale
W×D×H (mm)	65×80×240
Weight (kg)	1,6

Ordering information: Dispersing elements and accessories have to be ordered separately.

Description	Pk	Cat. No.
T 18 basic ULTRA-TURRAX® homogeniser, EU-plug	1	431-2601
T 18 basic ULTRA-TURRAX® homogeniser, UK-plug	1	431-2890
T 18 basic ULTRA-TURRAX® homogeniser, CH-plug	1	431-2880

Dispersing elements for homogenisers
IKA

Type N

Materials in contact with medium are PTFE and stainless steel AISI 316L, suitable for solvents and abrasive substances, can be sterilised by all methods, max. temperature 180 °C.

Type	For	Speed (m/s)	Stator/rotor Ø (mm)	Length (mm)	Volume (ml)	Pk	Cat. No.
S 18 N - 10 G	T 18 basic	9,4	10,0 / 7,5	108	1 - 100	1	431-2602
S 18 N - 19 G	T 18 basic	15,9	19,0 / 12,7	204	10 - 1500	1	431-2603

More dispersing elements are available on request

Disposable dispersing elements, for T 10 basic, T 18 basic and T 25 digital
IKA



S18D-10G-KS



S18D-14G-KS



Disposable, plastic dispersing elements are ideal for applications where cross-contamination cannot be tolerated. Dispersing elements can be thrown away after a single use, or can be re-used several times in applications where this is allowed, with careful cleaning and/or autoclaving. They are ideal for homogenising tissue samples, and particularly suitable for PCR analysis.

- Easy to use and autoclavable (maximum 5 times, no warranty assumed)
- Plastic materials used approved by FDA
- Robust plastic material can be used for media heated up to 100 °C
- Tools can be easily disassembled

Model	S18D-10G-KS	S18D-14G-KS
Suitable for dispersing instrument	T 18 basic	T 18 basic
Working Range (ml)	10 - 100	10 - 500
Stator Ø (mm)	10	14
Rotor Ø (mm)	6.75	9.5
Circumferential speed at 30 000 rpm (m/s)	8.5	12
Min. immersion depth (mm)	15	15
Shaft length (mm)	150	150
Materials in contact with medium	Polycarbonate (PC), Polyetheretherketone (PEEK)	Polycarbonate (PC), Polyetheretherketone (PEEK)
Max. temperature (°C)	100	100

Delivery information: Supplied with 1 disposable tube.

Description	For	Speed (m/s)	Stator/rotor Ø (mm)	Length (mm)	Volume (ml)	Pk	Cat. No.
S18D-10G-KS	T 18 basic	8,5	10 / 6,75	150	10 - 100	10	431-0016
S18D-14G-KS	T 18 basic	12	14 / 9,5	150	10 - 500	10	431-0015

Orbital shaker, Advanced 5000



Digital shaker with microprocessor control which is ideal for mixing applications with heavy loads, e.g. cell cultures, solubility studies and extraction procedures. Variable speed control provides consistent, uniform shaking action. The Accu-drive shaking system delivers exceptional speed control, accuracy, safety and durability, the system continuously monitors shaking speed and will maintain set point even under changing loads. Displayed speed is accurate to 1% of set speed. The ramping feature slowly increases speed to the set point for added safety. Built-in load sensor can detect an unbalanced condition and will automatically reduce the min⁻¹ to a safe speed to prevent spills and protect samples. Speed calibration mode allows the user to recalibrate the speed display and RS232 serial port provides two way communication for data logging and unit control.



- Two independent LED displays show speed and time
- Integral timer, 1 s to 160 h, shows elapsed time or counts down, automatic switch-off and audible alarm when programme is complete
- Can be used at -10 to +60 °C (maximum 80% relative humidity, non condensing), in an incubator, CO₂ incubator or cold room
- 5 year warranty on motor and drive mechanism

Shaking motion	Orbital
Orbit (mm)	25
Speed (min ⁻¹)	20 - 300
Speed accuracy (min ⁻¹)	±1 below 100
Max. load (kg)	22,7
Power (W)	75
Platform W×D (mm)	610×457
W×D×H (mm)	676×597×155
Weight (kg)	45

Delivery information: Supplied with non slip rubber mat but without attachments, accessories must be ordered separately. Please see entry 'Accessories for VWR Standard and Advanced series orbital shakers' for details on other platforms and accessories.

Description	Pk	Cat. No.
Advanced 5000 orbital shaker, EU-plug	1	444-2915
Advanced 5000 orbital shaker, UK-plug	1	444-2916
Advanced 5000 orbital shaker, CH-plug	1	444-2917

Accessories for VWR Standard and Advanced series orbital shakers



Universal platforms



Description	For	Pk	Cat. No.
Universal platform, 610×457 mm*	Standard/Advanced 3500, Advanced 3750**, Standard/Advanced 5000** shakers	1	444-2932
Universal platform, 762×457 mm*	Standard/Advanced 5000 shakers	1	444-2934
Set of 4 tier braces for stacking 2 platforms, clearance is 254 mm	Standard/Advanced 3500, Standard/Advanced 5000 shakers	1	444-2965

* Platforms are suitable for optional two tier braces, (444-2965) which allow stacking with 254 mm clearance between platforms (recommended for selected platform sizes)

** Platform stacking is not recommended for 3750 or 5000 models

Replacement rubber mats



Description	For	Pk	Cat. No.
Replacement rubber mat, 610×457 mm	Standard/Advanced 5000 shakers	1	444-2967

Culture platforms



Description	For	Pk	Cat. No.
Culture platform, 610×457 mm*	Standard/Advanced 3500, Advanced 3750**, Standard/Advanced 5000** shakers	1	444-2937
Set of 4 tier braces for stacking 2 platforms, clearance is 254 mm	Standard/Advanced 3500, Standard/Advanced 5000 shakers	1	444-2965

* Platforms are suitable for optional two tier braces, (444-2965) which allow stacking with 254 mm clearance between platforms (recommended for selected platform sizes)

** Platform stacking is not recommended for model Advanced 3750



Dedicated platforms

Description	For	Pk	Cat. No.
Set of 4 tier braces for stacking 2 platforms, clearance is 254 mm	Standard/Advanced 3500, Standard/Advanced 5000 shakers	1	444-2965

* Platforms are suitable for optional two tier braces, (444-2965) which allow stacking with 254 mm clearance between platforms (recommended for selected platform sizes)

** Platform stacking is not recommended for 3750 or 5000 model



Roller bar platforms

Description	For	Pk	Cat. No.
Roller bar platform, which has 4 adjustable cushioned rollers to hold glassware securely, 610×457 mm, bar size 457 mm	Standard/Advanced 5000 shakers	1	444-2939
Replacement 457 mm roller bar with mounting hardware	use with carrier 444-2940 or platforms 444-2938 / 444-2939	1	444-2943



Large vessel carrier platforms

Description	For	Pk	Cat. No.
Large vessel carrier platform, has 4 adjustable cushioned rollers to hold glassware securely, 764×459×353 mm, bar size 457 mm	Standard/Advanced 5000 shakers	1	444-2940
Replacement 457 mm roller bar with mounting hardware	use with carrier 444-2940 or platforms 444-2938 / 444-2939	1	444-2943

Microplate clamp

	Number of microplate clamps held on universal platforms:		
	Platform size (mm)	Platform Cat. No.	Number of microplate clamps (444-2954) held
	330×279	444-7087	4
	330×330	444-2930	6
	457×457	444-2931	12
	610×457	444-2932	18
	762×457	444-2933	21
	610×610	444-2934	24
	914×610	444-2935	36

Attaches to the relevant universal platform being used with the shaker. For details of universal platforms please see entry above.

Description	For	Pk	Cat. No.
Microplate clamp, holds one standard microplate or one deepwell plate, 89×129 mm	Standard/Advanced 3500, 5000, 10000, 15000 shakers	1	444-2954

Orbital shakers, KS 260

IKA



KS 260 basic



KS 260 control

Compact flat shakers with electronic adjustment of speed and timer. Control model has RS232 analogue interface, integrated end point positioning for automated robot controlled sampling and all functions can be controlled and documented with optional labworldsoft® software.

- Continuous or timer operation; basic model from 5 to 50 min, control model 0 to 599 min
- Basic model has LED display for speed and time adjustment, control model has digital display for speed, time and operating mode
- Can be used at 5 to 50 °C (80% relative humidity), in an incubator or cold room

IP protection class according to DIN EN 60529: IP 21



Model	KS 260 basic	KS 260 control
Shaking motion	Orbital	Orbital
Orbital diameter (mm)	10	10
Speed (min ⁻¹)	20 - 500	10 - 500
Max. load (kg)	7,5	7,5
Power input/output (W)	45/10	45/10
Display	LED speed/timer	Digital speed/timer/mode
W×D×H (mm)	360×420×98	360×420×98
Weight (kg)	8,5	8,8

Ordering information: Supplied without attachments, required accessories must be ordered separately.

Description	Pk	Cat. No.
KS 260 basic orbital shaker, EU-plug	1	444-2772
KS 260 basic orbital shaker, UK-plug	1	444-2321
KS 260 basic orbital shaker, CH-plug	1	444-2322
KS 260 control orbital shaker, EU-plug	1	444-2773
KS 260 control orbital shaker, UK-plug	1	444-2323
KS 260 control orbital shaker, CH-plug	1	444-2324

Note: Shaker KS 260 basic/control accommodates a maximum of 56×25, 23×50, 23×100, 11×250 or 9×500 ml flasks.

Accessories			
Description	For	Pk	Cat. No.
labworldsoft® software	networking up to 64 laboratory devices simultaneously via one PC	1	441-2127
Universal attachment (425×335×135 mm)	infinitely variable clamping of all kinds of vessels	1	444-2775
Fixing clip attachment (330×330×24 mm) supplied without clips	9×500, 11×250, 23×100, 23×50, 56×25 ml flasks or bottles	1	444-2776
Dish attachment (410×370×32 mm)	cell culture flasks, Petri dishes or culture bottles	1	444-2777
Fixing clip	25 ml flask	1	444-2531
Fixing clip	50 ml flask	1	444-2532
Fixing clip	100 ml flask	1	444-2533
Fixing clip	200/250 ml flask	1	444-2534
Fixing clip	500 ml flask	1	444-2535

Electronic overhead stirrers, VOS power control



VOS power basic



VOS power control

Lightweight, ergonomic overhead stirrer which is ideal for high viscosity mixing, large batch mixing or stirring products with medium viscosity. Microprocessor control provides feedback to the motor to maintain constant speed under changing viscosity, ensuring repeatable settings. The smooth start provides enhanced safety. VOS power control is particularly suitable for applications involving precise mixing documentation. It can be controlled using optional software and features integrated torque trend for viscosity control. An analogue interface enables the speed and torque to be recorded. Unit accommodates push-through stirring elements with shaft diameter up to 10 mm.

- Infinitely adjustable without gear shifting
- Microprocessor control
- Overload protection
- Digital speed display and RS232 interface

IP protection class according to DIN EN 60529: IP 42

Max. stirring capacity H ₂ O (l)	40
Max. viscosity (mPas)	50000
Speed range (min ⁻¹)	50 - 2000
Max. torque at chuck (Ncm)	60
Shaft Ø (mm)	0,5 - 10
Power - motor input/output (W)	130/110
W×D×H (mm)	80×190×253
Weight (kg)	3,8

Delivery information: Supplied with chuck key and extension arm. Accessories must be ordered separately. Plate stand 431-2901 has slip resistant foil coating, a 16 mm diameter supporting rod and supports up to 5 kg.

Description	Pk	Cat. No.
VOS power basic overhead stirrer, EU-plug	1	441-0285
VOS power basic overhead stirrer, UK-plug	1	441-0294
VOS power basic overhead stirrer, CH-plug	1	441-0297
VOS power control overhead stirrer, EU-plug	1	441-0286
VOS power control overhead stirrer, UK-plug	1	441-0295
VOS power control overhead stirrer, CH-plug	1	441-0298

Accessories		
Description	Pk	Cat. No.
Bosshhead clamp, 34 mm Ø stand, 16 mm Ø extension arm	1	431-2907
Flexible coupling for applications using glass stirring rods Ø 6 - 10 mm, max. torque 10 Ncm	1	441-9213
Plate stand, 200×316 mm, rod 16 mm Ø with height 560 mm	1	431-1047
Plate stand, 200×316 mm, rod 16 mm Ø with height 800 mm	1	431-2901
Plate stand, 200×316 mm, rod 16 mm Ø with height 1000 mm	1	441-2129
Stirring shaft protector	1	441-2999
Strap clamp for securing vessels, stand Ø 8 - 16 mm, vessel Ø 40 - 300 mm	1	431-2943
Support holder for stirring shaft	1	441-0038

Magnetic stirrers, VS-C series



Compact stirrers with a chemically resistant ceramic top. The elevated control panel minimises contact with spills. With fitting for retort rod.

- Powerful motor
- Strong magnetic adhesion prevents stirring bar decoupling
- Microprocessor control sends feedback to the motor to maintain constant speed

IP protection class according to DIN EN 60529: IP 21

Model	VS-C4	VS-C7	VSC-10
Max. stirring capacity H ₂ O (l)	5	10	15
Speed range (min ⁻¹)	100 - 1500	100 - 1500	100 - 1500
Power input/output (W)	15/1,5	15/1,5	15/1,5
Plate material	Ceramic	Ceramic	Ceramic
Plate dimensions (mm)	100×100	180×180	260×260
W×D×H (mm)	150×260×105	220×330×105	300×415×105
Weight (kg)	3	5	6

Description	Pk	Cat. No.
Magnetic stirrer, VS-C4, EU-plug	1	442-0550
Magnetic stirrer, VS-C4, UK-plug	1	442-0556
Magnetic stirrer, VS-C4, CH-plug	1	442-0562
Magnetic stirrer, VS-C7, EU-plug	1	442-0551
Magnetic stirrer, VS-C7, UK-plug	1	442-0557
Magnetic stirrer, VS-C7, CH-plug	1	442-0563
Magnetic stirrer, VS-C10, EU-plug	1	442-0552
Magnetic stirrer, VS-C10, UK-plug	1	442-0558
Magnetic stirrer, VS-C10, CH-plug	1	442-0564

Accessories		
Description	Pk	Cat. No.
Support rod, stainless steel, length 450 mm, Ø 10 mm, for all stirrers with M10 thread	1	442-2041
Bosshead clamp	1	442-2043

Magnetic hotplate stirrer, VMS-A



- Fixed safety circuit (400 °C)
 - Soft-start stirring motor
- IP protection class according to DIN EN 60529: IP 21



Max. stirring capacity H ₂ O (l)	10
Speed range (min ⁻¹)	100 - 2000
Temperature range (°C)	Ambient to 320
Heat output (W)	400
Power input/output (W)	15/2
Plate material	Stainless steel
Plate dimensions (mm)	Ø 125
W×D×H (mm)	168×220×105
Weight (kg)	2,4

Description	Pk	Cat. No.
VMS-A magnetic hotplate stirrer with stainless steel plate, EU-plug	1	442-0185
VMS-A magnetic hotplate stirrer with stainless steel plate, UK-plug	1	442-0186
VMS-A magnetic hotplate stirrer with stainless steel plate, CH-plug	1	442-0212

Magnetic hotplate stirrers, VMS Advanced series



VMS-C4 Advanced



VMS-C7 Advanced



VMS-C10 Advanced

Compact stirrers with a ceramic glass plate, providing excellent chemical resistance. Units feature digital error code display, a "hot" top indicator to warn users that surface is hot, a fixed safety circuit shuts off heater if temperature rises above 550 °C and there are three operating modes to choose from (standard, safe, adjustment protection). Stirrers have a speed display scale and optional capability to connect a PT1000 temperature sensor directly; when using this functionality control accuracy in the medium is ±0,5 °C.

- Exact temperature setting via digital potentiometer
- Simultaneous digital display of target and actual temperatures via LCD display
- Display of actual temperature value in medium with 0,1 °C resolution when using PT1000 temperature sensor
- Integrated contact thermometer VT-5 (all VT-5 functions incorporated in hotplate stirrer)
- Stirrer can be controlled using two microcontrollers

IP protection class according to DIN EN 60529: IP 21

Model	VMS-C4 Advanced	VMS-C7 Advanced	VMS-C10 Advanced
Max. stirring capacity H ₂ O (l)	5	10	15
Speed range (min ⁻¹)	100 - 1500	100 - 1500	100 - 1500
Temperature range (°C)	50...500	50...500	50...500
Heat output (W)	250	1000	1500
Power input/output (W)	15/1,5	15/1,5	15/1,5
Plate material	Ceramic	Ceramic	Ceramic
Plate dimensions (mm)	100×100	180×180	260×260
W×D×H (mm)	150×260×105	215×330×105	300×415×105
Weight (kg)	3	5	6

Delivery information: Supplied with PT1000 probe. A wide range of optional accessories are available.

Description	Pk	Cat. No.
VMS-C4 Advanced magnetic hotplate stirrer, EU-plug	1	442-0661
VMS-C4 Advanced magnetic hotplate stirrer, UK-plug	1	442-0662
VMS-C4 Advanced magnetic hotplate stirrer, CH-plug	1	442-0663
VMS-C7 Advanced magnetic hotplate stirrer, EU-plug	1	442-0664
VMS-C7 Advanced magnetic hotplate stirrer, UK-plug	1	442-0665
VMS-C7 Advanced magnetic hotplate stirrer, CH-plug	1	442-0666
VMS-C10 Advanced magnetic hotplate stirrer, EU-plug	1	442-0667
VMS-C10 Advanced magnetic hotplate stirrer, UK-plug	1	442-0668
VMS-C10 Advanced magnetic hotplate stirrer, CH-plug	1	442-0669

Accessories			
Description	For	Pk	Cat. No.
Glass coated PT1000 probe	VMS-Advanced magnetic hotplate stirrers	1	442-0695

Magnetic hotplate stirrer, RCT classic IKAMAG® safety control with VT-5 contact thermometer
IKA



Magnetic hotplate stirrer with aluminium alloy plate, suitable for unsupervised operation. It features integrated temperature control, digital error code display and incorporates excellent safety features, such as a "hot" top indicator to prevent burns and digital display of the set safety temperature limit. With its improved heating control this magnetic hotplate stirrer is ideal for use with contact thermometers, for precise temperature control.

- Adjustable safety circuit for heating plate temperature (50 to 360 °C)
- Digital display shows exact temperature and speed setting, even when switched off
- Bushing according to DIN 12878 for connecting contact thermometer e.g. VT-5 (supplied free of charge)
- High magnetic adhesion prevents decoupling
- Can be used at 0 to 60 °C (80% relative humidity), in an incubator or cold room

IP protection class according to DIN EN 60529: IP 42 (RCT classic) and IP 54 (VT-5)

Max. stirring capacity H ₂ O (l)	20
Speed range (min ⁻¹)	50 - 1200
Temperature range (°C)	Ambient...300
Control accuracy with VT-5	±0,5 K
Heat output (W)	600
Power input/output (W)	16/9
Plate material	Silumin
Plate dimensions (mm)	Ø 135
W×D×H (mm)	160×270×85
Weight (kg)	2,45

Delivery information: Supplied with VWR VT-5 contact thermometer and protective cover. A wide range of accessories are available, please order these separately.

Description	Pk	Cat. No.
RCT classic IKAMAG® safety control magnetic hotplate stirrer, EU-plug with VT-5 contact thermometer	1 SET	442-0598
RCT classic IKAMAG® safety control magnetic hotplate stirrer, UK-plug with VT-5 contact thermometer	1 SET	442-0599
RCT classic IKAMAG® safety control magnetic hotplate stirrer, CH-plug with VT-5 contact thermometer	1 SET	442-0600

Magnetic stirrers, boxed sets



Set Coloured Micro

PTFE covered, 12 coloured micro magnetic stirring rods in practical, see-through box. Set includes one stirrer in each colour (blue/red/yellow) with following dimensions L×Ø (mm): 8×1,5, 5×2, 7×2 and 10×3.

Set Coloured Standard

PTFE covered, 24 coloured octagonal magnetic stirring rods with centre ring in practical, see-through box. Set includes one stirrer in each colour (blue/red/yellow) with following dimensions L×Ø (mm): 13×3, 13×8, 15×8, 22×8, 25×8, 38×8, 51×8 and 75×13.

Type	Pk	Cat. No.
Coloured Micro	1 SET	442-0516
Coloured Standard	1 SET	442-0518

Laboratory blenders, Eco Blender II



For sample volumes up to 400 ml

Microbiological and pathogenic samples can be treated without risk to the operator or environment, by blending solid and semi-solid samples in sealed bags, eliminating bioaerosol production.

- Two reciprocating paddles
- Stainless steel external casing and handle
- Internal surface made of stove enamel
- Window in front door for observation of bagged samples during homogenisation
- Removable front door to make cleaning easier

Paddle speed (min ⁻¹)	180 - 320
Timer	For cycle programming
W×D×H (mm)	250×410×220
Weight (kg)	15

Description	Pk	Cat. No.
Eco Blender II	1	710-0873

Blender bags				
Description	Capacity (ml)	W×L (mm)	Pk	Cat. No.
Reinforced round bag	400	185×315	1.000	129-0491

Accessories		
Description	Pk	Cat. No.
Straw pipettes, PP, 1 ml, 190 mm, sterile, 25/pack	1.000	612-1675
Automatic straw pipette SP100 for 1:10 dilutions, autoclavable	1	710-1021

Laboratory blenders, Stomacher®

Seward



Stomacher® lab blenders offer fast reliable blending and homogenisation of a broad range of laboratory samples. The Stomacher® machines work by the action of twin reciprocating paddles on the sample contained inside a sterile plastic bag.



- Versatile and efficient blending and homogenisation of laboratory samples
- Safe containment of sample in sterile plastic bag prevents cross-contamination
- Machines do not need to be cleaned and sterilised between samples
- No temperature increase

Stomacher® 80 Biomaster

The Stomacher® 80 Biomaster comes in two versions:

80 microBiomaster sample range 250 µl to 80 ml

80 Biomastersample range 5 ml to 80 ml

The Stomacher® 80 microBiomaster has an adjustable door mechanism, which reduces or increases the paddle clearance between the sample and the door during processing. This allows the operator to adjust the blending pressure by turning the convenient control on the door while the machine is in operation. The Stomacher® 80 Biomaster is widely used in bioscience and healthcare for processing a range of samples from plant and animal tissue to china clay. It is ideal for processing samples of a biohazardous nature as the sample is contained in a sterile plastic bag at all times. This prevents aerosol release into the lab and cross-contamination of samples. The compact machine fits conveniently into safety cabinets.

- Compact, space saving size
- Versatile preparation system for life science applications
- Maximise extraction and 5000-fold improvement in cell recovery and viability
- Diluent-free sample processing

Paddle speed (min ⁻¹)	230/265/300 ±5
Timer	30/60/120/continuous
W×D×H (mm)	290×320×180
Weight (kg)	15

Delivery information: Unit is supplied complete with two plugs: EU and UK.

Description	Pk	Cat. No.
Stomacher® 80 microBiomaster	1	432-3155
Stomacher® 80 Biomaster	1	432-3110



Stomacher® 3500

Sample volumes from 400 ml to 3500 ml

The Stomacher® 3500 machines are designed to blend large volumes. There are different models for different applications:

- Standard version: Jumbo
- Water testing version: Biowasher, designed for Cryptosporidium and Giardia testing
- Bioreactor model: Thermo, with integral heater element, specifically designed for Trichinella testing

Stomacher® 3500 Jumbo

The Jumbo Stomacher® has a range of applications in the food industry, where sample sizes greater than standard protocols demand a larger capacity and in the pharmaceutical industry for blending powdery samples.

Stomacher® 3500 "Water" Biowasher

The Water Stomacher® has a larger door capacity than the Jumbo and allows the processing of large samples which can not be compressed, such as water filters, operating theatre gowns or surgical dressings. All of the sample and washing solution is retained inside the bag for further analysis.

Stomacher® 3500 "Thermo" Bioreactor

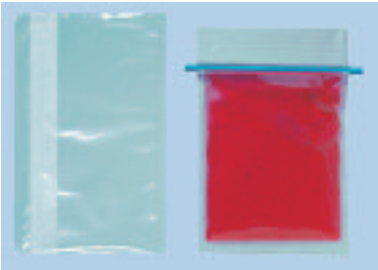
The Thermo Stomacher® is designed to blend and heat the sample simultaneously. Inside the door there is a thermostatically controlled heating panel, which can raise the temperature inside the bag from room temperature to 50 °C in 1 °C increments. The Thermo is primarily used in Trichinella testing in pork production but has a range of other applications as a pilot fermentation plant or where an enzyme/acid digestion of a material is required.

Paddle speed (min ⁻¹)	75 - 180 in steps of 5
Timer	0 - 99 min 59 s
W×D×H (mm)	470×450×470
Weight (kg)	42

Delivery information: Unit is supplied complete with two plugs: EU and UK.

Description	Pk	Cat. No.
Stomacher® 3500 Jumbo	1	432-3130
Stomacher® 3500 Water	1	432-0058
Stomacher® 3500 Thermo	1	432-0059

Lab-blender bags



PE, sterile

- Fit all conventional lab blenders
 - Choice of plain or filtered bags, plain bags have capacities from 80 ml to 3500 ml
- Irradiated at 10 kGy



Description	Capacity (ml)	W×L (mm)	Packed	Pk	Cat. No.
Plain bags	80	105×150	60×bags of 25	1,500	129-9873
Plain bags	400	180×300	20×bags of 25	500	129-9866
Plain bags	400	180×300	10×bags of 50	500	129-9867
Plain bags	3500	380×510	20×bags of 25	500	129-9872
Bags with lateral filter	400	190×300	60×bags of 25	1,500	129-9868
Bags with lateral filter	400	190×300	10×bags of 50	500	129-9874
Bags with full page filter	400	190×300	10×bags of 50	500	129-9875

Accessories	Pk	Cat. No.
Clips for lab blender bags	200	129-9869

Lab blender bags, Stomacher®

Seward



Stomacher® bags are all manufactured from virgin polymer granule extruded into a tube. The only seal is at the base. All bags are batch tested and in-process monitored during manufacturing on Stomacher® machines. Bags are tested against a wide range of parameters that include open-ability, transparency, and flexibility as well as dimensions and performance. Stomacher® bags come in a range of formats to suit all applications.



- Manufactured from high-grade, food quality polythene
- Minimum 65 µm film thickness provides high impact strength
- Gamma irradiated at 25 to 50 kGy to guarantee sterility. Individual irradiation batch certificates are available on request
- Bags are batch traceable to 10 packs and pharmaceutical QC standard sampling protocols are applied in manufacturing
- Stomacher® bags are packed in durable white plastic sachets, with printing to show the contents and which end should be opened to maintain the sterility of the contents on the laboratory bench

Standard bags

Standard bags are available in two sizes: 400 and 3500 ml. The 400 ml bags are produced in Circulator format with round bottom seals and Classic format with square bottom seals. The 400 ml bags are available in two different packaging formats, plastic carry packs or cardboard boxes, the latter are packed in either sachets of 5 or 50 bags.

Strainer bags

Strainer bags are standard bags with a strainer bag suspended inside. The strainer is a full width bag and has a pore size microbiologically guaranteed to allow the free movement of organisms through it and to eliminate the risk of pore blockage, which will occur in finer mesh filters. The strainer bags reduce pipette blockage and also protect the bag film from gritty samples. Available in 400 ml Classic and Circulator formats.

Closure bags

Closure bags have a simple wire closure attached to the open end of the bag. These bags can be used for sample collection. In food testing the closure bag can be used to pre-enrich samples for pathogen testing by sealing the bag and placing it in the incubator after Stomaching. Available in 400 ml Classic and Circulator formats.

Ordering information: Details of the full range of Seward bags and bag accessories are available on request.

Stomacher® 400 Classic bags

Description	Capacity (ml)	W×L (mm)	Packed	Pk	Cat. No.
Standard bag	80 - 400	177×305	500 in 10 sachets of 50	500	432-3126
Closure bag	80 - 400	177×305	250 in 25 sachets of 10	250	432-3123
Filter bag	80 - 400	177×305	200 in 20 sachets of 10	200	432-3119

Stomacher® 400 Circulator bags

Description	Capacity (ml)	W×L (mm)	Packed	Pk	Cat. No.
Standard bag	80 - 400	177×305	500 in 10 sachets of 50	500	432-3121
Closure bag	80 - 400	177×305	250 in 25 sachets of 10	250	432-3125
Standard carry pack	80 - 400	177×305	500 in 10 sachets of 50	500	432-3117
Filter bag	80 - 400	177×305	200 in 20 sachets of 10	200	432-3124
Standard bag	80 - 400	177×305	500 in 100 sachets of 5	500	432-0025

Stomacher® 3500 bags

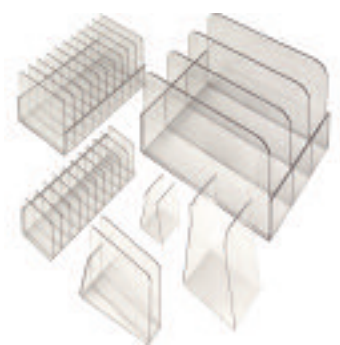
Description	Capacity (ml)	W×L (mm)	Packed	Pk	Cat. No.
Standard bag	400 - 3500	380×510	250 in 5 sachets of 50	50	432-3131
Heavy duty bag (80 µm)	400 - 3500	380×510	200 in 20 sachets of 10	250	432-3156

Simplettes®

Simplettes are inexpensive pipette tips for use with Stomacher® 400 bags. They are the right length to reach down to the bottom of the bag to recover the sample for inoculating Petri dishes and broths.

- Manufactured from polythene
- Gamma irradiated sterile

Description	Packed	Pk	Cat. No.
Simplettes® standard (177 mm)	2000 in 40 sachets of 50	2.000	432-0024



Racks and openers for Stomacher® bags

Stomacher® bags racks and bag openers assist the operator in handling their samples on the bench.

- Strong clear plastic racks - easy to maintain and clean
- Bag openers to assist the operator in loading samples and pipetting homogenate

Description	Pk	Cat. No.
Stomacher® 400 bag rack one place	1	432-3150
Stomacher® 3500 bag rack three place	1	432-3153
Stomacher® 400 bag rack 10 place	1	432-3152
Stomacher® 400 bag opener	1	431-0132
Stomacher® 400 bag clips	200	432-3116

Blender bags



High grade polymer mixture, ideal for any food laboratory sample blenders.

- With write-on panel to allow for easy identification of samples, useful for barcoding
- Sterilisation by 15 - 40 kGy



Description	W×L (mm)	Thickness (µm)	Packed	Pk	Cat. No.
For model 80	100×150	65	40 sachets of 50 bags	2.000	432-0000
For model 400	180×300	65	10 sachets of 50 bags	500	432-0001
For model 400, curved bottom	180×300	65	10 sachets of 50 bags	500	432-0002
For model 400, with inner filter bag	180×300	65	20 sachets of 10 bags	200	432-0003
For model 400, with inner filter bag, curved bottom	180×300	65	20 sachets of 10 bags	200	432-0004
For model 3500	380×500	70	5 sachets of 50 bags	250	432-0005

Bunsen burner, FIREBOY plus

Integra Biosciences



Mobile Bunsen burner with touch-free sensor ignition. If equipped with the adapter for gas cartridges and rechargeable battery it can be regarded as portable equipment suitable for safe use in the field or the laboratory. Alternatively, it can be connected to a mains power and gas supply.

- Triple safety system: Flame monitoring, over-temperature and burning time limitation

Operates in three modes:

- Foot switch: Flame stays as long as the foot switch is pressed
- Continuous: Manually switch On/Off
- Sensor: The sensor registers your hand movement and ignites the flame automatically

Adjustable burning time
DVGW-approved

Delivery information: Includes 2 nozzles for propane/butane and natural gas, power supply adapter and tubing adapter Ø 10 mm.

Description	Pk	Cat. No.
FIREBOY plus	1	451-0135

Accessories		
Description	Pk	Cat. No.
CV 360, 52 g butane cartridge, for use with Campingaz 360	1	451-0155
Foot switch with connecting cable	1	612-0776
Gas cartridge adapter for Campingaz CP 250	1	451-1425
Gas cartridge adapter for Campingaz CV 270/470	1	451-1426
Gas cartridge adapter for Campingaz CV 360	1	451-1424
Long burner head	1	451-0153
Splash protector, borosilicate glass	1	451-0015
Windshield	1	451-0014

Cartridge burner

Usbeck



Stainless steel

Propane/butane mix. For temperatures up to 1400 °C.

- With air regulation and needle valve

Ø×H: 105×215 mm

Delivery information: Supplied with cartridge, refill as accessory.

Description	Pk	Cat. No.
Burner with 400 ml cartridge	1	451-2200

Accessories		
Description	Pk	Cat. No.
Gas cartridge, 400 ml	1	451-2201

Bunsen burner

Usbeck



Nickel plated brass with cast iron foot

- With air regulation and pilot flame
- Lever stop-cock

Height: 150 mm

Description	Pk	Cat. No.
For natural gas, 14 mm	1	451-0081
For bottle gas, 11 mm	1	451-0082

Burners
Usbeck



- DIN version**
- With air regulation and pilot flame inside

Description	Pk	Cat. No.
Bunsen type		
With stopcock, for propane	1	451-1320
With stopcock, for natural gas	1	451-1330
Teclu type		
With needle valve, for natural gas	1	451-1365

Rubber tubing for natural gas



Ø int. (mm)	Ø ext. (mm)	Wall thickness (mm)	Pk	Cat. No.
8,5	16	3,75	5 m	228-0857
8,5	16	3,75	10 m	228-0855
8.5	16	3.75	20 m	228-0856

Gas tubing for gas burners



- Rubber, red**
- Gas tubing for gas burners, without sheath or armouring, in line with DIN 30 664. For all gases in line with DVGW process sheet G 260.
- Operating pressure up to 100 mbar

Ø int. (mm)	Ø ext. (mm)	Wall thickness (mm)	Pk	Cat. No.
10	14	2	1 m	451-4330

Butyrometer bath, stainless steel, for use in dairy laboratories

Grant



Specifically designed for use in dairy laboratories, deep enough to allow immersion of Gerber butyrometers, and suitable for general laboratory applications where a deep 290 mm tank is required. The T100-MST20 butyrometer bath has a stainless steel tank in a stainless steel outer case, and a hinged stainless steel lid. The digital control unit has a bright LED and is mounted on a stainless steel cover over the tank and can be easily detached for cleaning or servicing. It has an injection-moulded plastic case, with heater, float, stirrer and temperature sensor projecting downwards into the liquid. All immersed parts are made of materials to resist occasional contamination of the water by spilt Gerber acid. The bath has space for three racks, which each hold 12 butyrometers.



- Simple user interface based on a sensitive rotor plus two keys
- Stirred circulation within the tank for excellent temperature stability and uniformity
- Operating set-point, plus three adjustable preset temperature values
- User recalibration facility, for optimum accuracy at the required operating temperature
- Low liquid protection by float switch; fault indication display and visual alarm

Type	Temp. range (°C)	Temp. stability (°C)	Heating capacity (kW)	Capacity (l)	Bath W×D×H (mm)	W×D×H (mm)	Pk	Cat. No.
T100-MST20	RT+5...100	±0,05	1,3	20	412×232×290	412×232×490	1	461-0741

* RT = Ambient

Accessories			
Description	For	Pk	Cat. No.
Stainless steel test tube rack, H1-25M	12 butyrometers	1	462-0092

Hotplates, VHP-C series



Compact hotplates with a chemically resistant ceramic top. The elevated control panel minimises contact with spills and enables easy reading and adjustment of the temperature. Units feature a digital error code display and "hot" top indicator to warn users that the surface is hot.



- VHP-C7 and VHP-C10 can be used with the VT-5 contact thermometer, enabling precise temperature control
- Fixed safety circuit shuts off heater if temperature rises above 550 °C
- Microprocessor control sends feedback to the hotplate to maintain set temperature
- Digital display ensures accurate and repeatable temperature settings

IP protection class according to DIN EN 60529: IP 21

Type	Heating area (mm)	Heating capacity		W×D×H (mm)	Weight (kg)	Pk	Cat. No.
		Temp. (°C)	(W)				
VHP-C4, EU-plug	100×100	50...500	250	150×260×105	3	1	453-0050
VHP-C4, UK-plug	100×100	50...500	250	150×260×105	3	1	453-0053
VHP-C4, CH-plug	100×100	50...500	250	150×260×105	3	1	453-0056
VHP-C7, EU-plug	180×180	50...500	1000	220×330×105	5	1	453-0051
VHP-C7, UK-plug	180×180	50...500	1000	220×330×105	5	1	453-0054
VHP-C7, CH-plug	180×180	50...500	1000	220×330×105	5	1	453-0057
VHP-C10, EU-plug	260×260	50...500	1500	300×415×105	6	1	453-0052
VHP-C10, UK-plug	260×260	50...500	1500	300×415×105	6	1	453-0055
VHP-C10, CH-plug	260×260	50...500	1500	300×415×105	6	1	453-0058

Accessories		
Description	Pk	Cat. No.
VT-5 Electronic contact thermometer with PT1000 probe	1	442-0573
Support rod, stainless steel, length 450 mm, Ø 10 mm, for all stirrers with M10 thread	1	442-2041
Bosshead clamp	1	442-2043
Extension cable, separates casing from the sensor, avoiding damage from vapours released by the medium	1	620-8104

Water baths, VWB series



Water baths with double walled, stainless steel (inner) and coated steel sheet (outer) housing. Temperature is evenly distributed by a flat radiator. Electronic PID controller with digital temperature setting gives high temperature stability. A digital timer can be set so that the water bath will maintain the required temperature after the alarm has sounded. The baths have a drain cock and are protected against 'running dry' as the heater automatically switches off if liquid is low. Note: Baths are classified Safety class 1, allowing unattended operation when used with non flammable liquids.

- Temperature range ambient +5 to 100 °C
- Digital temperature indicator with three user defined fixed temperatures
- In standby mode display shows residual heat, display also shows when power and heating is on
- Temperature stability: ±0,2 K
- Digital temperature display and setting 0,1 °C

Delivery information: Supplied with transparent polycarbonate hinged lid and removable shelf as standard.

Type	Temp. range (°C)	Temp. stability (°C)	Heating capacity (W)	Capacity (l)	Bath W×D×H (mm)	W×D×H (mm)	Pk	Cat. No.
VWB 2	RT* +5...100	±0,2	0,5	1 - 2	300×150×100	350×215×290	1	462-0240
VWB 6	RT* +5...100	±0,2	0,5	2 - 6	300×150×150	350×215×290	1	462-0241
VWB 12	RT* +5...100	±0,2	1,0	4 - 12	300×325×150	350×375×290	1	462-0242
VWB 18	RT* +5...100	±0,2	1,6	6 - 18	505×300×150	570×405×290	1	462-0243
VWB 26	RT* +5...100	±0,2	1,6	8 - 26	505×300×200	570×405×340	1	462-0244

* RT = Ambient

Tube racks for VWB 2

Tube racks for VWB 2 bath, maximum 1 rack per bath.

Description	For tube Ø (mm)	W×D×H (mm)	Pk	Cat. No.
Test tube rack, holds 56 tubes	10	220×65×135	1	462-0245
Test tube rack, holds 48 tubes	12	220×65×135	1	462-0246
Test tube rack, holds 33 tubes	14	220×65×135	1	462-0247
Test tube rack, holds 18 tubes	18	220×65×135	1	462-0248
Test tube rack, holds 12 tubes	25	220×65×135	1	462-0249
Test tube rack, holds 6 tubes	35	220×65×135	1	462-0250
Test tube rack, holds 3 tubes	50	220×65×135	1	462-0251

Tube racks for VWB 6, VWB 12, VWB 18 and VWB 26

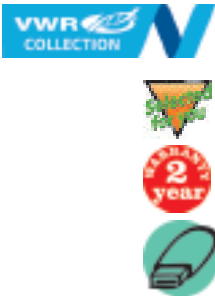
Tube racks suitable for: VWB 6, VWB 12, VWB 18, VWB 26, maximum 1, 4, 7, 7 racks per bath respectively.

Description	For tube Ø (mm)	W×D×H (mm)	Pk	Cat. No.
Test tube rack holds 56 tubes	10	220×65×155	1	462-0252
Test tube rack holds 48 tubes	12	220×65×155	1	462-0253
Test tube rack holds 33 tubes	14	220×65×155	1	462-0254
Test tube rack holds 18 tubes	18	220×65×155	1	462-0255
Test tube rack holds 12 tubes	25	220×65×155	1	462-0256
Test tube rack holds 6 tubes	35	220×65×155	1	462-0257
Test tube rack holds 3 tubes	50	220×65×155	1	462-0258

Accessories

Description	For	Pk	Cat. No.
Flat cover with 1 set of water bath rings	VWB 2, VWB 6	1	462-0259
Flat cover with 3 sets of water bath rings	VWB 12	1	462-0260
Flat cover with 4 sets of water bath rings	VWB 18, VWB 26	1	462-0261
Level controller	All VWB baths	1	462-0262

Heating circulators



Stainless steel circulating baths with choice of Advanced Programmable or Advanced Digital temperature controller. Both are easy to navigate with large, intuitive displays and multiple communication options including USB-A & B, RS232/485, Ethernet and external temperature probe. The reservoir drain can be accessed by removing the front panel. All models feature user-adjustable high temperature safety cut-off points as well as over-temperature protection. The DuraTop™ surface is cooler to the touch when operating at high temperatures.

Digital models feature an intuitive 9,5 cm display with touch pad control, single point calibration, menus and prompts in 4 languages: French, German, Spanish and English.

Programmable models have an intuitive 10,9 cm SmartTouch display, 5-point calibration capability, menus and prompts in 6 languages: French, German, Spanish, English, Chinese and Arabic, plus time/temperature programming (ten 100-step programmes).

- Working temperatures from ambient +10 to 200 °C with stability of ±0,01 °C
- Variable speed pressure/suction pump with external circulation and temperature control capability
- Swivel 180™ rotating controllers, LidDock™ lid stowing system and DuraTop™ chemically resistant deck
- Event scheduling (time and date), real time clock and temperature trends for up to 10 days with Advanced Programmable models
- Selectable home screens and on-screen help
- Automatic and/or user-adjustable performance optimisation

Comply with DIN 12876-1, Safety Class III

Maximum pump capacities:

16,7 l/min, 250 mbar; suction: 12,2 l/min

Delivery information: Supplied with a reservoir cover, bypass tubing, male inlet and outlet adapters for 47, 63 and 95 mm tubing, ¼" to M16 adapters are also included. For probes and accessories, please visit www.vwr.com.

Type	Temp. range (°C)	Temp. stability (°C)	Heating capacity (kW)	Capacity (l)	Bath W×D×H (mm)	W×D×H (mm)	Pk	Cat. No.
Models with Advanced Digital temperature controller								
AD07H200	RT* +10...200	±0,01	2,2	7	142×157×127	221×499×409	1	462-0215
AD15H200	RT* +10...200	±0,01	2,2	15	276×212×140	368×569×422	1	462-0217
AD20H200	RT* +10...200	±0,01	2,2	20	316×250×140	419×610×422	1	462-0219
AD28H200	RT* +10...200	±0,01	2,2	28	359×314×140	457×672×422	1	462-0221
Models with Advanced Programmable temperature controller								
AP07H200	RT* +10...200	±0,01	2,2	7	142×157×127	221×499×409	1	462-0216
AP15H200	RT* +10...200	±0,01	2,2	15	276×212×140	368×569×422	1	462-0218
AP20H200	RT* +10...200	±0,01	2,2	20	316×250×140	419×610×422	1	462-0220
AP28H200	RT* +10...200	±0,01	2,2	28	359×314×140	457×672×422	1	462-0222
Accessories								
Description							Pk	Cat. No.
PT100 probe with 3 m cable							1	462-0272

Immersion thermostat, MX



The MX immersion thermostat is user friendly with three control buttons and on-screen prompts. The convenient slide control enables the flow rate to be easily adjusted, and it can clamp securely to straight or curved tank walls.

- Large EasyView™ LCD display with alarm or fault icons and English prompts and menus
- User adjustable high and low temperature limits and low liquid level alarms
- Single speed pressure pump
- Integral pump and heater coil protection
- Single point calibration

Complies with DIN 12876-1, Safety class I

Maximum pump capacities:
10,6 l/min, 100 mbar



Type	Temp. range (°C)	Temp. stability (°C)	Heating capacity (kW)	W×D×H (mm)	Weight (kg)	Pk	Cat. No.
MX	RT*...135	±0,07	1,1	109×97×358	4,5	1	462-0205

* RT = Ambient

Immersion thermostat, Alpha
Lauda



The Alpha immersion thermostat has an easy to use control console featuring 3-button operation and large, clear LED display, ensuring easy navigation through the menu. The thermostats are suitable for use with non flammable liquids (water, water/glycol mixtures). Units can provide both internal and external thermostating. Temperature stability of ±0,05 K gives precise heating and cooling suitable for a wide range of applications. Using an optional pump circulation set and a cooling coil, the immersion thermostat can be expanded to create a fully fledged thermostating system.

- Temperature range 25 to 85 °C, resolution 0,1 °C, temperature stability of ±0,05 K
- User-calibration at a single point for re-calibration of working temperatures
- Pump flow rate can be reduced from 15 to 5 l/min by means of a reducer
- Safety functions such as alarms, warnings and errors are shown on the LED display

Maximum pump capacities:
15 l/min, 200 mbar

Delivery information: Supplied with flow reducer and screw clamp, which allows the immersion thermostat to be attached to any tank with a maximum wall thickness of 25 mm, and capacity of up to 50 litres; the maximum temperature achievable is dependent on the tank insulation.

Type	Temp. range (°C)	Temp. stability (°C)	Heating capacity (kW)	W×D×H (mm)	Weight (kg)	Pk	Cat. No.
Alpha (A)	25...85	±0,05	1,5	125×150×300	3,5	1	461-0052

Accessories

Description	Pk	Cat. No.
Pump circulation set (for external thermostating)	1 SET	461-0054
Cooling coil	1	461-0053

Immersion thermostats
Julabo



Range of heating immersion thermostats with wide range of functionality and features for your applications.

- Mechanically adjustable pressure pump
- Over-temperature and low liquid level protection to avoid any potential damage
- Compact units suitable for use with virtually any tanks up to 50 litres and 26 mm wall thickness
- Wetted parts and housing made of high quality stainless steel or plastic

ED models

- Temperature range of 20 to 100 °C
- LED temperature display for actual and set point values
- Keypad for set point input
- Adjustable high temperature cut-off/low liquid level protection (float)

EH models

In addition to the features of the ED, above, the EH has extended temperature range.

- Temperature range of 20 to 150 °C
- Adjustable high temperature cut-off/low liquid level protection (float)
- Timer function

MB models

The unit is suitable for use with small bath volumes up to 20 litres, features PID temperature control with drift compensation, and early warning systems with audible signal for low liquid level, and for high/low temperature limits.

- Temperature range up to 100 °C and an LED Multi-Display with resolution of 0,01/0,1 °C
- Actual and up to three set temperatures can be viewed
- RS232 interface, free EasyTemp software for control via a PC, the software can be downloaded free of charge. Please contact VWR for details.

MA models

In addition to the features of the MB, above, the MA has a wider temperature range, electronically adjustable pump capacity and a temperature stability of ±0,01 °C.

ME models

The more advanced ME has the same features as MB/MA models; in addition it has PID cascade temperature control for highest internal and external temperature stability. Display gives simultaneous indication of internal/external set point and actual values.

- Temperature range up to 200 °C with VFD comfort display with resolution of 0,01 °C
- External PT100 sensor connection
- Integrated programmer for 10 programme steps for time and temperature dependent processes
- Electronically adjustable pump capacity including illuminated pump stage display

SE-Z models

Suitable for the most demanding applications; features as ME and in addition includes Intelligent Cascade Control, self optimising for optimum results and Temperature Control Features (TCF) for band limit, limit setting, co-speed factor and control dynamics.

- Temperature range up to 300 °C
- Suitable for use with tanks up to 100 litres, bridge extends from 31 cm to 66 cm
- Built-in cooling coil for counter cooling with tap water
- Powerful electronically adjustable pressure and suction pump
- 3 kW Heating capacity

Max. flow rate / max. pressure:

ED/EH: 15 l/min, 350 mbar

MB: 10 l/min, 120 mbar

MA/ME: 11 - 16 l/min, 450 mbar

SE-Z: 22 - 26 l/min, 700 mbar, 400 mbar suction

Type	Temp. range (°C)	Temp. stability (°C)	Heating capacity (kW)	W×D×H (mm)	Weight (kg)	Pk	Cat. No.
ED	20...100	±0,03	2	130×150×330	3,3	1	461-0413
EH	20...150	±0,03	2	130×150×330	3,3	1	461-0418
MB	20...100	±0,02	2	130×150×330	3,3	1	461-0170
MA	20...200	±0,01	2	130×150×330	4	1	461-0632
ME	20...200	±0,01	2	130×150×330	4	1	461-0384
SE-Z	20...300	±0,01	3	320×170×400	8	1	461-0419

Accessories			
Description	For	Pk	Cat. No.
Cooling coil	ED, EH, MB, MA, ME	1	461-3125
Pump set for external circulation	ED, EH, MB, MA, ME	1	461-3124
Bath attachment clamp for attaching to tank with wall thickness up to 60 mm	ED, EH, MB, MA, ME	1	461-0472

Baths, polycarbonate with MX temperature controller



Transparent polycarbonate baths keep samples visible, units feature user friendly MX temperature controller with three control buttons and on-screen prompts. The convenient slide control enables the flow rate to be easily adjusted, the elevated tank bottom gives secure handholds when lifting or positioning the bath and is stable on uneven surfaces. Controller bridge made from chemically resistant DuraTop™ is easily removed to clean the tank. The 17 and 28 litre models have a drain and opening with lid for optional cooling coil which is ideal for set points near ambient temperature.



- Large EasyView™ LCD display with alarm or fault icons and English prompts and menus
- User adjustable high and low temperature limits and low liquid level alarms
- Single speed pressure pump
- Integral pump and heater coil protection
- Single point calibration

Complies with DIN 12876-1 Class I safety requirements for use with non flammable liquids

Maximum pump capacities:
10,6 l/min, 100 mbar

Delivery information: Supplied with a bath cover.

Type	Temp. range (°C)	Temp. stability (°C)	Heating capacity (kW)	Capacity (l)	Bath W×D×H (mm)	W×D×H (mm)	Pk	Cat. No.
MX11P100	RT* +10...85	±0,07	1,1	11	156×210×203	208×532×441	1	462-0206
MX17P100	RT* +10...85	±0,07	1,1	17	305×105×203	345×457×441	1	462-0207
MX28P100	RT* +10...85	±0,07	1,1	28	300×315×203	345×562×441	1	462-0208

* RT = Ambient

Baths and lids, stainless steel with MX temperature controller



Stainless steel baths with user friendly MX temperature controller with three control buttons and on-screen prompts. The convenient slide control enables the flow rate to be easily adjusted. Baths can be used for external circulation, the controller bridge made from chemically resistant DuraTop™ is easily removed to clean the tank. The 10 and 20 litre models have an opening with lid for optional cooling coil which is ideal for set points near ambient temperature.



- Large EasyView™ LCD display with alarm or fault icons and English prompts and menus
- User adjustable high and low temperature limits and low liquid level alarms
- Single speed pressure pump
- Integral pump and heater coil protection
- Single point calibration

Complies with DIN 12876-1, Safety class I

Maximum pump capacities:
10,6 l/min, 100 mbar

Delivery information: Supplied with a bath cover.

Type	Temp. range (°C)	Temp. stability (°C)	Heating capacity (kW)	Capacity (l)	Bath W×D×H (mm)	W×D×H (mm)	Pk	Cat. No.
MX06S135	RT* +10...135	±0,07	1,1	6	110×100×152	206×340×406	1	462-0211
MX10S135	RT* +10...135	±0,07	1,1	10	255×99×152	342×353×406	1	462-0212
MX20S135	RT* +10...135	±0,07	1,1	20	214×257×203	342×531×457	1	462-0213

* RT = Ambient

Water baths and circulators, stainless steel, Optima™

Grant



TC120-ST18



TXF200-ST26

The Grant Optima™ range consists of both general purpose and advanced performance thermostats combined with premium stainless steel baths (drain tap on 12, 18, 26 and 38 l tanks). Stirred circulation within the bath ensures excellent temperature stability and uniformity. Units can also be used with accessory C1G and C2G immersion coolers for operation below ambient temperatures.



General purpose thermostats T100 and TC120

Digital microprocessor controlled T100 and TC120 thermostats feature an easy to use rotary dial and two function keys for quick temperature setting and menu navigation. Units feature a bright, easy to view 4 digit display, 3 programmable temperature presets, low liquid protection, fixed over-temperature cut-out, visual alarm, countdown timer and user calibration facility for optimal accuracy.

- T100 temperature range: Ambient +5 to 100 °C. Settable range 0 to 100 °C (operation below ambient requires accessory cooling)
- TC120 temperature range: Ambient +5 to 120 °C. Settable range -20 to +120 °C (operation below ambient requires accessory cooling)
- Pump for external circulation, an audible and visual alarm and adjustable over-temperature cut-out (TC120 only)
- Models 12 l and above have a dual position mounting plate so the Optima™ can be orientated on the tank in two directions - ideal for optimising bench space
- Stability ±0,05 °C at 70 °C

Advanced thermostats TX150 and TXF200

TX150 and TXF200 thermostats feature a full colour QVGA TFT screen displaying actual and set temperature and clear status icons. The QVGA TFT screen in combination with the easy to use dial and function keys allows rapid navigation through the intuitive menu system. Both units have an RS232 and USB interface and can be programmed via remote PC or laptop using Grant's versatile Labwise™ software (software optionally available). Additional features include countdown timer, adjustable over-temperature cut-out, visual, audible and programmable high and low temperature alarms. The TX150 has the capacity to store 1 programme with 30 segments. The TXF200 can also be programmed via the user interface and can store up to 10 programmes containing 100 segments. The programming interface includes set target temperature with a choice of time to target temperature or temperature ramp speed and an additional programmable relay for on/off control of ancillary equipment or refrigeration units.

- TX150 temperature range: Ambient +5 to 150 °C. Settable range -50 to +150 °C (operation below ambient requires accessory cooling)
- TXF200 temperature range: Ambient +5 to 200 °C. Settable range -50 to +200 °C (operation below ambient requires accessory cooling)
- Stability ±0,01 °C at 70 °C
- External PT1000 temperature probe socket
- Off-set adjustment for isothermal performance
- Two-point user calibration of internal and external probes

Maximum pump capacities:
TC120 16 l/min, 210 mbar
TX150 18 l/min, 310 mbar
TXF200 23 l/min, 530 mbar variable speed

Delivery information: Stirred baths are supplied with thermostat, tanks and mounting bridge plate but without lid. Lids are recommended when working above 60 °C and should be ordered separately.

Type	Temp. range (°C)	Temp. stability (°C)	Heating capacity (kW)	Capacity (l)	Bath W×D×H (mm)	W×D×H (mm)	Pk	Cat. No.
General purpose models								
T100-ST5	RT* +15...100**	±0,05	1,3	5	150×150×140	180×330×395	1	461-0731
T100-ST5	RT* +15...100**	±0,05	1,3	5	150×150×140	180×330×395	1	461-0691
T100-ST12	RT* +5...100**	±0,05	1,3	12	205×300×140	330×360×395	1	461-0732
T100-ST12	RT* +5...100**	±0,05	1,3	12	205×300×140	330×360×395	1	461-0687
T100-ST18	RT* +5...100**	±0,05	1,3	18	385×300×130	330×540×395	1	462-0336
T100-ST18	RT* +5...100**	±0,05	1,3	18	385×300×130	330×540×395	1	461-0688
T100-ST26	RT* +5...100**	±0,05	1,3	26	385×300×180	330×540×450	1	462-0337
T100-ST26	RT* +5...100**	±0,05	1,3	26	385×300×180	330×540×450	1	461-0689
T100-ST38	RT* +5...100**	±0,05	1,3	38	575×300×180	330×730×450	1	462-0338
T100-ST38	RT* +5...100**	±0,05	1,3	38	575×300×180	330×730×450	1	461-0690
TC120-ST5	RT* +15...120**	±0,05	1,3	5	150×150×140	180×330×395	1	461-0725
TC120-ST5	RT* +15...120**	±0,05	1,3	5	150×150×140	180×330×395	1	461-0700
TC120-ST12	RT* +5...120**	±0,05	1,3	12	205×300×140	330×360×395	1	461-0721
TC120-ST12	RT* +5...120**	±0,05	1,3	12	205×300×140	330×360×395	1	461-0696
TC120-ST18	RT* +5...120**	±0,05	1,3	18	385×300×130	330×540×395	1	461-0722
TC120-ST18	RT* +5...120**	±0,05	1,3	18	385×300×130	330×540×395	1	461-0697
TC120-ST26	RT* +5...120***	±0,05	1,3	26	385×300×180	330×540×450	1	461-0723

Type	Temp. range (°C)	Temp. stability (°C)	Heating capacity (kW)	Capacity (l)	Bath W×D×H (mm)	W×D×H (mm)	Pk	Cat. No.
General purpose models								
TC120-ST26	RT* +5...120***	±0,05	1,3	26	385×300×180	330×540×450	1	461-0698
TC120-ST38	RT* +5...120***	±0,05	1,3	38	575×300×180	330×730×450	1	461-0724
TC120-ST38	RT* +5...120***	±0,05	1,3	38	575×300×180	330×730×450	1	461-0699
Advanced models								
TX150-ST5	RT* +15...150**	±0,01	1,9	5	150×150×140	180×330×395	1	461-0733
TX150-ST5	RT* +15...150**	±0,01	1,9	5	150×150×140	180×330×395	1	461-0710
TX150-ST12	RT* +5...150**	±0,01	1,9	12	205×300×140	330×360×395	1	461-0734
TX150-ST12	RT* +5...150**	±0,01	1,9	12	205×300×140	330×360×395	1	461-0706
TX150-ST18	RT* +5...150**	±0,01	1,9	18	385×300×130	330×540×395	1	462-0339
TX150-ST18	RT* +5...150**	±0,01	1,9	18	385×300×130	330×540×395	1	461-0707
TX150-ST26	RT* +5...150***	±0,01	1,9	26	385×300×180	330×540×450	1	462-0340
TX150-ST26	RT* +5...150***	±0,01	1,9	26	385×300×180	330×540×450	1	461-0708
TX150-ST38	RT* +5...150***	±0,01	1,9	38	575×300×180	330×730×450	1	462-0341
TX150-ST38	RT* +5...150***	±0,01	1,9	38	575×300×180	330×730×450	1	461-0709
TXF200-ST5	RT* +15...200**	±0,01	1,9	5	150×150×140	180×330×395	1	461-0730
TXF200-ST5	RT* +15...200**	±0,01	1,9	5	150×150×140	180×330×395	1	461-0720
TXF200-ST12	RT* +5...200**	±0,01	1,9	12	205×300×140	330×360×395	1	461-0726
TXF200-ST12	RT* +5...200**	±0,01	1,9	12	205×300×140	330×360×395	1	461-0716
TXF200-ST18	RT* +5...200**	±0,01	1,9	18	385×300×130	330×540×395	1	461-0727
TXF200-ST18	RT* +5...200**	±0,01	1,9	18	385×300×130	330×540×395	1	461-0717
TXF200-ST26	RT* +5...200***	±0,01	1,9	26	385×300×180	330×540×450	1	461-0728
TXF200-ST26	RT* +5...200***	±0,01	1,9	26	385×300×180	330×540×450	1	461-0718
TXF200-ST38	RT* +5...200***	±0,01	1,9	38	575×300×180	330×730×450	1	461-0729
TXF200-ST38	RT* +5...200***	±0,01	1,9	38	575×300×180	330×730×450	1	461-0719

* RT = Ambient

** Temperature range can be extended to 0 °C with accessory cooling, Grant C1G. Cat. No 473-4100

*** Temperature range can be extended to -15 °C with accessory cooling Grant C2G. Cat. No 473-4101

Lids			
Description	For	Pk	Cat. No.
Gabled stainless steel lid, hinged	ST12	1	461-0677
Stainless steel lid	ST5	1	461-0680
Gabled stainless steel lid, hinged	ST18, ST26	1	461-0678
Gabled stainless steel lid, hinged	ST38	1	461-0679
Accessories			
Description	For	Pk	Cat. No.
Refrigerated cooler C1G	Tank sizes (l) 5, 12, 18, 26, 38	1	473-4100
Refrigerated cooler C2G	Tank sizes (l) 26, 38	1	473-4101
Labwise® software	GR150, GP200, TX150 and TXF200	1	461-0223
External probe, flexible plastic	Monitoring temperature of external loads	1	461-0630
External probe, stainless steel	Monitoring temperature of external loads	1	461-0631

Baths and circulators, stainless steel

Julabo



Bath circulators mounted on a stainless steel bridge with stainless steel bath tank for internal and external temperature applications. The units are mainly intended for operation in the bath tank. Temperature application to external closed systems is possible via the pump nozzles. Typical applications: Circulation to measuring cells, cuvette holders, temperature testing of food/luxury articles and material testing.

ED models

- Temperature range of 20 to 100 °C
- LED temperature display for actual and set point values
- Keypad for set point input
- Adjustable high temperature/dry running protection

EH models

Same features as ED above, and in addition has features:

- Temperature range of 20 to 150 °C
- High temperature cut-off/low liquid level protection (float)
- Timer function

MB models

Multi-Display (LED) for actual value, up to 3 set points, high/low temperature warning functions, high temperature protection. It is possible to calibrate three temperatures simultaneously.

- Temperature range of 20 to 100 °C and a LED Multi-Display with resolution of 0,01/0,1 °C
- Early warning system signals a lowering of bath fluid level
- PID temperature control with drift compensation
- RS232 interface

Sample Preparation

Heating & Cooling

Classification (according to DIN 12876-1: 1): ED and MB
Classification (according to DIN 12876-1: 3): EH
Maximum pump capacities:
ED/EH: 15 l/min, 350 mbar
MB: 10 l/min, 120 mbar

Ordering information: All units with an RS232 interface can use the EasyTemp software for control via a PC; the software can be downloaded free of charge. Please contact VWR for details.

Type	Temp. range (°C)	Temp. stability (°C)	Heating capacity (kW)	Capacity (l)	Bath W×D×H (mm)	W×D×H (mm)	Pk	Cat. No.
ED-5	RT...100	±0,03	2	4,5	150×150×150	170×330×360	1	461-0414
ED-13	RT...100	±0,03	2	13	180×300×150	390×330×370	1	461-0426
ED-19	RT...100	±0,03	2	19	360×300×150	570×330×370	1	461-0427
ED-27	RT...100	±0,03	2	27	360×300×200	570×370×420	1	461-0428
ED-33	RT...100	±0,03	2	33	670×300×150	910×330×380	1	461-0429
EH-5	RT...150	±0,03	2	4,5	150×150×150	170×330×360	1	461-0430
EH-13	RT...150	±0,03	2	13	180×300×150	390×330×370	1	461-0431
EH-19	RT...150	±0,03	2	19	360×300×150	570×330×370	1	461-0432
EH-27	RT...150	±0,03	2	27	360×300×200	570×370×420	1	461-0433
EH-33	RT...150	±0,03	2	33	670×300×150	910×330×380	1	461-0434
EH-39	RT...150	±0,03	2	39	360×300×300	540×340×520	1	461-0435
MB-5	RT...100	±0,02	2	4,5	150×150×150	170×330×360	1	461-0177
MB-13	RT...100	±0,02	2	13	180×300×150	390×330×370	1	461-0178
MB-19	RT...100	±0,02	2	19	360×300×150	570×330×370	1	461-0180
Description								
For							Pk	Cat. No.
Lids								
Lift up bath lid					13/17 litre baths		1	462-4110
Lift up bath lid					19/27 litre baths		1	461-3904
Lift up bath lid					33 litre baths		1	461-3104
Flat stainless steel bath lid					13/17 litre baths		1	461-3541
Flat stainless steel bath lid					19/27 litre baths		1	461-3901
Flat stainless steel bath lid					33 litre baths		1	461-3542
Flat stainless steel bath lid					39 litre baths		1	461-3540
Test tube racks								
Plexiglas® test tube rack, up to 60 °C, for baths 5A, 5A/B, 5M, 5M/B, 7A, 7A/B					6×50 ml conical tubes		1	461-0013
					20 test tubes, 160×17 mm Ø		1	461-0012
					20 test tubes, 100×17 mm Ø		1	461-3920
					30 test tubes, 50×12/13 mm Ø		1	461-3921
					36 test tubes, 40×10/11 mm Ø		1	461-3923
Polypropylene test tube racks, up to 80 °C					60 test tubes, 16/17 mm Ø		1	461-0481
Polypropylene test tube racks, up to 80 °C					90 test tubes, 12/13 mm Ø		1	461-0482
Stainless steel test tube racks, up to 150 °C					21 test tubes, 30 mm Ø		1	461-0486
Stainless steel test tube racks, up to 150 °C					28 test tubes, 16/17 mm Ø		1	461-0016
Stainless steel test tube racks, up to 150 °C					38 test tubes, 12/13 mm Ø		1	461-0017
Stainless steel test tube racks, up to 150 °C					50 test tubes, 16/17 mm Ø		1	461-0483
Stainless steel test tube racks, up to 150 °C					90 microtubes, 11/12 mm Ø		1	461-0485
Stainless steel test tube racks, up to 150 °C					90 test tubes, 12/13 mm Ø		1	461-0484
Accessories								
Description					For		Pk	Cat. No.
Immersion height adjustable platform					19 and 27 litre baths		1	461-3912
Immersion height adjustable platform					13 and 17 litre baths		1	461-0049

Shaking water baths, linear GLS Aqua Plus series

Grant



These linear shaking baths have digital PID control for quick heat-up and precision control; they are programmable, with two temperature and shaking presets. This allows commonly used temperatures and shaking speeds to be quickly selected. They feature a stainless steel tank with drain tap for easy emptying.



- Front panel with lock-out function prevents accidental changing of settings
- Countdown timer with audible buzzer for accurate reaction timing
- Adjustable shaking speed
- Digital (3-digit LED) for display and setting of temperature and shaking speed
- Adjustable over-temperature cut-out and fixed thermal cut-out

Model	GLS Aqua 12 Plus	GLS Aqua 18 Plus
Temperature range (°C)	Ambient +5...99	Ambient +5...99
Temperature stability (%)	±0,1 (at 37 °C)	±0,1 (at 37 °C)
Uniformity (°C)	±0,1 (at 37 °C)	±0,1 (at 37 °C)
Linear stroke length (mm)	18	18
Linear speed (strokes/min)	40 - 400*	40 - 400*
Flask immersion depth (mm)	0/60 min/max	0/60 min/max
Shaker tray W×D (mm)	235×240	420×235
Capacity (l)	12	18
W×D×H (mm)	335×390×270	335×570×270

* Depending on load

Delivery information: Supplied with non drip polycarbonate lid. Required trays and racks must be ordered separately.

Description	Pk	Cat. No.
Linear shaking water bath GLS Aqua 12 Plus, UK-plug	1	462-0155
Linear shaking water bath GLS Aqua 12 Plus, EU-plug	1	462-0156
Linear shaking water bath GLS Aqua 18 Plus, UK-plug	1	462-0157
Linear shaking water bath GLS Aqua 18 Plus, EU-plug	1	462-0158

Shaking water baths, SW22 and SW23

Julabo



Stainless steel shaking water baths are suitable for unsupervised continuous operation. The bright, LED Multi-Display showing up to six temperature values is visible from across the lab. Advanced microprocessor technology with PID temperature control eliminates temperature overshoot and provides high temperature stability. Sensitive samples are well protected; as soon as the high and low temperature limits are reached an intermittent tone sounds. If the liquid in the bath reaches a minimum, the unit shuts down completely and a continuous single tone sounds.



- Electronic timer for setting running time 1 min to 9 h 59 min
- Removable shaking tray prevents direct contact with the bath liquid
- RS232 interface allows on-line communication with PC EasyTemp control software available to download free of charge
- Dry-running protection/safety temperature fixed at 130 °C

Model	SW22	SW23
Temperature range (°C)	20...99,9	20...99,9
Temperature stability (%)	±0,2	±0,02
Linear stroke length (mm)	15	15
Shaking speed range (min ⁻¹)	20 - 200	20 - 200
Capacity (l)	8 - 20	8 - 20
Heating capacity (W)	2000	2000
Tank dimensions W×D×H (mm)	500×300×180	500×300×180
W×D×H (mm)	700×350×260	700×350×260
Weight (kg)	19,4	21,4

Ordering information: Supplied without trays, racks or lid. Please order required accessories separately.

Description	Pk	Cat. No.
Shaking water bath, SW22	1	462-4102
Shaking water bath, SW23	1	462-4104

Accessories for shaking water baths

Julabo



Description	For	Pk	Cat. No.
Universal tray for 25 - 1000 ml Erlenmeyer flasks (400×230 mm)	SW22, SW23	1	462-0083
Carrier tray for Erlenmeyer flasks, holds 45 flasks	25 ml	1	462-4111
Carrier tray for Erlenmeyer flasks, holds 32 flasks	50 ml	1	462-4112
Test tube rack, holds 90 tubes	tube Ø 12/13 mm, up to 80 °C	1	461-3108

Water bath protective agent, Aquaresist



Prevents the growth of algae and bacteria in baths and circulating thermostats, for optimally hygienic working conditions.



- Durable. Effective for weeks, as displayed by a colour indicator
- Economical. Low consumption - only 1 ml solution per 1 litre water

Description	Pk	Cat. No.
Water bath protective agent, Aquaresist	100 ml	462-7000

Water bath disinfection reagent, Aquabator-Clean™

AppliChem



Aquabator-Clean™ is designed for disinfecting water baths. It protects against growth of fungi and bacteria.

- Supplied as a concentrate - 2 ml per litre of water
- Biodegradable
- Non irritating to skin at recommended concentrations

Description	Pk	Cat. No.
Aquabator-Clean™	50 ml	A5225.0050

Measuring beakers with handle



Stainless steel, rustproof, flared rim, without spout
Ideal for corrosive materials. Robust and durable.

- Good chemical resistance
- Excellent resistance to heat
- Smooth surfaces for fast, easy cleaning

Capacity (ml)	Height (mm)	Ø ext. (mm)	Pk	Cat. No.
100	60	50	1	213-3821
250	85	65	1	213-3822
500	110	80	1	213-3823
1000	130	100	1	213-3824
2000	180	120	1	213-3825
3000	180	150	1	213-3826
5000	210	180	1	213-0252

Beaker tongs

Funke-Gerber



Stainless steel

Spanning area (mm)	Pk	Cat. No.
90	1	614-0199

Butter melting beakers

Funke-Gerber



Aluminium

For the determination of water content in butter.

Height (mm)	Ø ext. (mm)	Pk	Cat. No.
51	60	1	614-0197
66	64	1	614-0198



Autoclaves & Disposables 58

Incubators 62

Refrigerators & Freezers 69

Microbiology Laboratory Equipment

Autoclaves, Laboklav 25

SHP



In stainless steel, chamber door made from heat-proof safety glass.

These compact bench top units with a 25 l useable chamber offers a large capacity and the performance of a big autoclave. The unit has a chamber door and a transparent front cover made from resistant safety glass, LED chamber illumination and coloured lighting to visualise the cycle progress. No feed water or waste water connection required, fan for fast cooling on some models, the user has only to plug it in and start.

- Integrated steam generator with dry heating elements
- Fully automatic closing system with thermo locking device to avoid over-boiling and to protect the operator
- Front cover from transparent safety glass and process illumination (LED); blue, red, green
- Sensor as standard which measures the temperature inside the bottles
- RS232 and RS485 interface

Fully compliant with DIN 58951 and TRB 402 (thermo locking device)

Capacity (l)	25 (5×1 laboratory flasks, up to 5 kg instruments)
Material	Housing: powder coated. Front cover: transparent safety glass. Chamber: stainless steel, lid made from temperature proof safety glass. Process illumination (LED): blue, red and green.
Temperature (°C)	95 – 138
Heating power (W)	2000
Max. pressure (bar)	2,8 /-1
Internal Ø×H (mm)	265×465
W×D×H ext. (mm)	440×660×540
Weight (kg)	65

Description	Pk	Cat. No.
Autoclave Laboklav 25 B basic unit with integrated water tank with manual filling	1	481-0397
Autoclave Laboklav 25 M with fast cooling system and integrated water tank with manual filling	1	481-0398
Autoclave Laboklav 25 V with vacuum system and integrated water tank with manual filling	1	481-0399
Autoclave Laboklav 25 MV with fast cooling system and vacuum system; with integrated water tank with manual filling	1	481-0400

Autoclaves, Laboklav

SHP

Stainless steel chamber and housing; colours: Light grey/blue, light grey/red, light grey/green

A completely new concept allows the installation of the unit as either front- or top-loader. Deciding on horizontal or vertical is no longer the question with SHP autoclaves. No matter if installed horizontally or vertically, the units remain the same. Even at a later stage the unit can be changed from vertical to horizontal installation or vice versa without the need for big technical changes (contact us for details). When set up as horizontal units they are even stackable.

The newly developed integrated steam generator separates the heating elements from the water; the result is a much longer life span of heating elements. Low in energy consumption due to optimised size of steam generator in relation to chamber volume.

Units with cooling or vacuum options are supplied with full double jacket made from the same material as the chamber. During the cooling cycle, deionised water is circulated around the double jacket to ensure a fast and reliable cooling of sensitive media. No consumption of cooling deionised water, it returns to cooling water storage tank which has an integral heat exchanger. During the drying cycle the jacket is filled with steam to support the drying result of the vacuum unit.

- Automatic feed water pump
- Fully automatic closing system and thermo locking device to protect the operator
- Reference sensor as standard which measures the temperature inside the bottles
- Microprocessor control with 22 programmes that can be adjusted by the operator to optimise the process (code protected)
- RS485 interface

Autoclaves for use in the laboratory, in full compliance with: DIN 58950 (pharmaceutical applications), DIN 58951 (laboratory applications), pressure Device Directive 97/23/EU, IEC 61010 - 2 - 43 (thermo locking device)

Laboklav 55

	Model	Laboklav 55, horizontal	Laboklav 55, vertical
	Capacity (l)	55	55
	Temperature (°C)	98 – 138	98 – 138
	Max. pressure (bar)	2,8	2,8
	Internal Ø×H (mm)	410×460	410×460
	W×D×H ext. (mm)	740×765×600	740×600×765
	Weight (kg)	115	115

Description	Pk	Cat. No.
Autoclave Laboklav 55-B, horizontal, basic unit	1	481-0401
Autoclave Laboklav 55-M, horizontal, with integrated fast recooling	1	481-0403
Autoclave Laboklav 55-MS, horizontal, with integrated fast recooling and counter pressure	1	481-0405
Autoclave Laboklav 55-MSL, horizontal, with integrated fast recooling, counter pressure and additional fan	1	481-0407
Autoclave Laboklav 55-MSL, vertical, with integrated fast recooling, counter pressure and additional fan	1	481-0408
Autoclave Laboklav 55-V, horizontal, with vacuum system	1	481-0409
Autoclave Laboklav 55-V, vertical, with vacuum system	1	481-0410
Autoclave Laboklav 55-MV, horizontal, with vacuum system and integrated fast recooling	1	481-0411
Autoclave Laboklav 55-MV, vertical, with vacuum system and integrated fast recooling	1	481-0412
Autoclave Laboklav 55-MSV, horizontal, with vacuum system, integrated fast recooling and counter pressure	1	481-0413
Autoclave Laboklav 55-MSV, vertical, with vacuum system, integrated fast recooling and counter pressure	1	481-0414
Autoclave Laboklav 55-MSLV, vertical, with vacuum system, integrated fast recooling, counter pressure and additional fan	1	481-0416

Laboklav 80

	Model	Laboklav 80, horizontal	Laboklav 80, vertical
	Capacity (l)	80	80
	Temperature (°C)	98 – 138	98 – 138
	Max. pressure (bar)	2,8	2,8
	Internal Ø×H (mm)	410×610	410×610
	W×D×H ext. (mm)	740×915×600	740×600×915
	Weight (kg)	155	155

Description	Pk	Cat. No.
Autoclave Laboklav 80-B, horizontal, basic unit	1	481-0417
Autoclave Laboklav 80-B, vertical, basic unit	1	481-0418
Autoclave Laboklav 80-M, horizontal, with integrated fast recooling	1	481-0419
Autoclave Laboklav 80-M, vertical, with integrated fast recooling	1	481-0420
Autoclave Laboklav 80-MS, horizontal, with integrated fast recooling and counter pressure	1	481-0421
Autoclave Laboklav 80-MS, vertical, with integrated fast recooling and counter pressure	1	481-0422
Autoclave Laboklav 80-V, horizontal, with vacuum system	1	481-0425
Autoclave Laboklav 80-V, vertical, with vacuum system	1	481-0426
Autoclave Laboklav 80-MV, horizontal, with vacuum system and integrated fast recooling	1	481-0427
Autoclave Laboklav 80-MV, vertical, with vacuum system and integrated fast recooling	1	481-0428
Autoclave Laboklav 80-MSV, horizontal, with vacuum system, integrated fast recooling and counter pressure	1	481-0429
Autoclave Laboklav 80-MSV, vertical, with vacuum system, integrated fast recooling and counter pressure	1	481-0430
Autoclave Laboklav 80-MSLV, vertical, with vacuum system, integrated fast recooling, counter pressure and additional fan	1	481-0432

Laboklav 100

Model	Laboklav 100, vertical
Capacity (l)	100
Temperature (°C)	98 – 138
Max. pressure (bar)	2,8
Internal Ø×H (mm)	410×760
W×D×H ext. (mm)	740×600×1065
Weight (kg)	185

Description	Pk	Cat. No.
Autoclave Laboklav 100-MV, vertical, with vacuum system and integrated fast recooling	1	481-0443



Accessories

Description	Pk	Cat. No.
Insert with 4 trays	1	481-0630

Sterilisation indicators



Autoclave tape which is designed according to the three critical parameters for effective sterilisation. This reliable indicator tape causes stripes to appear depending on the time, temperature and saturated vapour.

The tape changes from white to black after 3,5 minutes at 134 °C.

Dry heat steriliser tape; changes from green to different shades of brown after a period at a temperature between 155 and 180 °C.

Description	Length (m)	Width (mm)	Pk	Cat. No.
Tape for ethylene oxide	50	19	50 m	489-0045
Tape	50	19	1 Roll	489-0046

Autoclave tapes



White adhesive crepe tape, for use in standard autoclaves

Reveals the word “autoclaved” after 15 minutes of exposure at 121 °C.
Clean removal from the autoclaved object.



Length (m)	Width (mm)	Pk	Cat. No.
12,7	13	1 Roll	489-1311
12,7	19	1 Roll	489-1312
12,7	25	1 Roll	489-1313

Steam sterilisation indicators



Steam sterilisation. The labels change colour from pink to dark brown after sterilisation.

Packaging: Roll of 5000 labels

Description	Ø (mm)	Pk	Cat. No.
Circular labels - steam sterilisation indicators	12,5	1 Roll	489-0100

Steam sterilisation indicator labels

Namsa



Self-adhesive, non toxic, chemical process indicators change from blue to pink upon exposure to 10 minutes of saturated steam at 121 °C or 2 minutes at 134 °C. Longer exposure will result in a brighter shade of pink. The blue to pink colour transition is sensitive to time, temperature, and the presence of saturated steam.

- Water based ink is made without the use of heavy metals
- Indicators are stable for at least 18 months when stored at room temperature

Conforms to ISO 11140-1 Section 6 for Class 1 Process Indicators.
Label Ø: 12,7 mm.

Delivery information: Supplied as a roll of 5000 labels.

Description	Ø (mm)	Pk	Cat. No.
Steam sterilisation indicator labels	12,7	1 Roll	489-0047

Autoclave deodorant



This autoclave deodorant improves the working environment and neutralises odours associated with autoclaving. The capsule releases its contents automatically as the autoclave heats up.

- Easy to use



Description	Pk	Cat. No.
Eucalyptus and mint fragrance	100	320101.100
Apple fragrance	100	320201.100
Lemon fragrance	100	320301.100
Floral fragrance	100	320401.100
Peach fragrance	100	320501.100

Wire baskets, rectangular, for benchtop

Tuttnauer



W×D×H (mm)	Pk	Cat. No.
400×180×160	1	481-0684
400×190×160	1	481-0680

Digital incubators, INCU-Line® , IL 10 and IL 23



The IL 10 and IL 23 digital incubators offer an economical and space saving solution for microbiology or haematology applications. The temperature can be freely adjusted in increments of 0,1 °C up to a maximum of 70 °C. Heating elements are incorporated into the housing base and walls to ensure temperature stability and uniformity. The IL 10 is available with a transparent plexiglas® window to provide full visibility or a painted, opaque plexiglas® window to protect photosensitive samples. The housing and door frame are constructed entirely of epoxy coated mild steel.

- Compact design (footprint is only 0,08 m² IL 10 model)
- Digital PID control with PT100 sensor and LED display, temperature control can be re-adjusted with a certificated reference temperature measuring instrument
- Excellent temperature stability
- Easy to use, safe and reliable

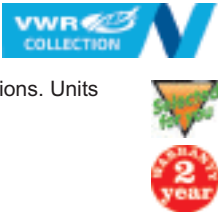
Model	IL 10	IL 23
Temperature range (°C)	Ambient +5...70	Ambient +5...70
Temperature fluctuation (time) (°C)	at 37 °C: ±0,5	at 37 °C: ±0,5
Temperature variation (spatial) (°C)	at 37 °C: ±0,5	at 37 °C: ±0,5
Capacity (l)	10	23
Convection type	Natural convection	Natural convection
Shelves supplied (max.)	1 (2)	2 (3)
Internal W×D×H (mm)	230×220×200	290×290×270
External W×D×H (mm)	285×280×335	340×360×400
Nominal power consumption (W)	70	160
Weight (kg)	8,3	12,8

Delivery information: IL 10 is supplied with one perforated stainless steel shelf, IL 23 is supplied with two. The IL 10 can, optionally, be loaded with up to two specially designed aluminium tube racks for vertical incubation of a maximum of 24 dip slide tubes.

Type	Pk	Cat. No.
IL 10 mini incubator, transparent window	1	390-0384
IL 23 incubator, transparent window	1	390-0482

Accessories		
Description	Pk	Cat. No.
Tube rack for dip slides, 2×6 positions, Ø 32 mm	1	390-0386
Extra shelf for IL 10, stainless steel, 226×215 mm	1	390-0387
Extra shelf for IL 23, stainless steel, 286×285 mm	1	390-0483

Incubators, INCU-Line® , IL 53 and IL 115



Incubators with natural air circulation for all standard incubation applications. Units have stainless steel chamber with glass inner doors.

- Microprocessor control with large digital temperature display
- Temperature setting in increments of 0,1 °C
- Built-in timer from 0 - 999 min, or 0 - 99,9 h or continuous mode
- Exhaust duct on the back of the unit with manually adjustable slide
- Independent adjustable temperature safety device Class 3.1 with a visual alarm, saves the samples and the incubator

Model	IL 53	IL 115
Temperature range (°C)	Ambient +5...70	Ambient +5...70
Temperature fluctuation (time) (°C)	at 37 °C: ±0,2	at 37 °C: ±0,2
Temperature variation (spatial) (°C)	at 37 °C: ±0,6	at 37 °C: ±0,7
Capacity (l)	53	115
Convection type	Natural convection	Natural convection
Shelves supplied (max.)	2 (4)	2 (4)
Internal W×D×H (mm)	401×330×401	600×400×480
External W×D×H (mm)	620×622×680	820×732×760
Nominal power consumption (W)	200	250
Weight (kg)	45	68

Delivery information: Supplied with two chrome plated shelves.

Type	Pk	Cat. No.
INCU-Line 53	1	390-0350
INCU-Line 115	1	390-0353

Incubators, natural convection, INB, INE and INP series
Memmert



The incubators are available in three different performance classes: Basic (INB), Excellent (INE, IFE) or Perfect (INP, IFP) and with natural (INB, INE, INP) or forced (IFE, IFP) convection. The natural convection models are ideal for drying sensitive samples and for use when not fully loaded. The forced convection units give better temperature distribution in large chambers, and are used mainly for full loads. The chamber and the housing of all models are constructed from easy to clean, corrosion resistant stainless steel. On the large, glass covered display all setting and process parameters can be viewed at a glance. All of the incubators are equipped with four-sided heating and double doors (glass inner door, stainless steel outer door) and an adjustable, pre-heated fresh air supply.



Basic (INB) - the most economical models

- PID controller with one PT100 sensor in 4-wire circuit, auto diagnostic system and manually adjustable air flap for fresh air intake
 - One working temperature can be set with or without timer from 1 min to 99 h 59 min
- Double over-temperature protection with visual alarm: The electronic protection switches off the heating at 3 °C above the setpoint and a mechanical temperature over heating limiter (TB) switches off the heating if the maximum permitted temperature is exceeded by approx. 10 °C

Excellent (INE, IFE) - for more exacting requirements

- PID controller with two PT100 sensors in 4-wire circuit, auto diagnostic system, manually adjustable air flap for fresh air intake, electronically adjustable fan speed (IFE types)
- Real-time weekly programme timer and ramp timer for 4 ramps (wait, heating up, hold, cooling down) from 1 min to 999 h
- Long-term logging of all relevant data via 1024 kB ring buffer
- RS232 serial interface with 'Celsius' programming and logging software
- Triple over-temperature protection with visual alarm: These models are equipped with electronic and mechanical protection (as the Basic models) and in addition with an adjustable over-temperature controller (Class 3.1) which takes over the control at a preset temperature in case of failure

Perfect (INP, IFP) - fully programmable models

- PID controller with two PT100 sensor in 4-wire circuit, auto diagnostic system, electronically adjustable and programmable air flap for fresh air intake and fan speed (IFP types)
- Real-time weekly programme timer and ramp timer for maximum 40 ramps, each from 1 min to 999 h
- Long-term logging of all relevant data via 1024 kB ring buffer
- RS232 serial interface with 'Celsius' programming and logging software, integrated chip card reader, printer port
- Memory card for programme or data storing, STERlcard with programme for working chamber sterilisation with fixed set values (4 hrs/160 °C)
- Multiple over-temperature protection with visual and acoustic alarm: These models are equipped with the same protection systems as the Excellent models and in addition have an Automatic Safety Function (ASF) system with alarm for over- and under-temperature automatically following the setpoint in a freely selectable tolerance range

Delivery information: Supplied with one or two stainless steel grids depending on model and with manufacturer's calibration certificate at 37 °C. Excellent and Perfect series are supplied with 'Celsius' software, Perfect models with MEMoryCard and STERlcard chip cards. Accessories are available on request, for details please visit www.vwr.com or contact your local VWR sales office.

Natural convection, INB, INE and INP series

Model	200	300	400	500	550	600	700	800
Temperature range (°C)	Ambient +5...70				Ambient +5...70			
Temperature fluctuation (time) (°C)	at 37 °C: ±0,5 (B), ±0,1 (E/P)				at 37 °C: ±0,5 (B), ±0,1 (E/P)			
Temperature variation (spatial) (°C)	at 37 °C: ±0,25 (B), ±0,1 (E/P) (INE/INP 550: 0,15)				at 37 °C: ±0,25 (B), ±0,1 (E/P) (INE/INP 550: 0,15)			
Capacity (l)	32	39	53	108	153	256	416	749
Convection type	Natural convection				Natural convection			
Shelves supplied (max.)	1 (3)	1 (3)	2 (4)	2 (5)	2 (7)	2 (7)	2 (9)	2 (14)
Internal W×D×H (mm)	400×250×320	480×250×320	400×330×400	560×400×480	480×500×640	800×500×640	1040×500×800	1040×600×1200
External W×D×H (mm)	550×400×600	630×400×600	550×480×680	710×550×760	630×650×920	950×650×920	1190×650×1080	1190×750×1620
Power consumption (W)	440	500	800	900	1100	1600	1800	2000
Weight (kg)	28	30	35	50	66	87	121	170

Type	Pk	Cat. No.
INB 200 with Basic controller	1	390-0269
INB 300 with Basic controller	1	390-0297
INB 400 with Basic controller	1	390-0298
INB 500 with Basic controller	1	390-0299
INE 200 with Excellent controller	1	390-0300
INE 300 with Excellent controller	1	466-5060
INE 400 with Excellent controller	1	390-0301
INE 500 with Excellent controller	1	390-0302
INE 550 with Excellent controller	1	390-0324
INE 600 with Excellent controller	1	390-0303
INE 700 with Excellent controller	1	466-5061
INE 800 with Excellent controller	1	466-5062
INP 200 with Perfect controller	1	390-0304
INP 300 with Perfect controller	1	390-0305
INP 400 with Perfect controller	1	390-0306
INP 500 with Perfect controller	1	390-0307
INP 550 with Perfect controller	1	390-0325
INP 600 with Perfect controller	1	390-0308
INP 700 with Perfect controller	1	390-0309
INP 800 with Perfect controller	1	390-0310

Microbiological incubators, with or without forced convection, BD and BF series

Binder



Two versions of these incubators with electronically controlled APT.line™ preheating chamber are available depending on the application: The BD series with natural convection for all standard applications and the BF series with forced convection for applications with high load density. The advantage of the BF series with forced convection is extremely precise temperature distribution within the incubator, even with high load density, and fast temperature recovery times after the door has been opened. APT.line™ incubators provide superior temperature accuracy and meet all quality requirements for uniform, reproducible incubation conditions. Their broad temperature range and high performance mean that the BD and BF series can be used for all incubation tasks in research, production and quality assurance. Units up to 115 litres can be stacked on top of each other to save space. The incubators are easy to clean with residue-free cleaning of entire inner chamber and inner glass door. All models have an independent adjustable temperature safety device Class 3.1 with a visual alarm, which saves the samples and the incubator and adjustable ventilation by means of rear exhaust duct, Ø 50 mm with ventilation flap and front ventilation slide. Both BD and BF series have RS422 interface for communication software (software optional). On the BF series the interface is switchable to printer output with accessory RS232/RS422 interface converter.

- Additional safety is provided with disinfection at 100 °C and easy operation
- DS controller with integrated timer 0 to 99 hours (BD series), MS controller with several timer functions such as 'Delayed OFF' and 'Delayed ON' (BF series)
- High degree of temperature accuracy and fast temperature recovery time after the door has been opened (BF series)
- Adjustable fan speed (BF series)

Delivery information: Supplied with two chrome plated shelves and Binder test certificate. Calibrations and validations possible, for details please visit www.vwr.com or contact your local VWR sales office.

Model	BD 23	BD 53	BD 115	BD 240	BD 400	BD 720
Temperature range (°C)	Ambient +5...100			Ambient +5...100		
Temperature fluctuation (time) (°C)	at 37 °C: ≤±0,2	at 37 °C: ≤±0,1	at 37 °C: ≤±0,1	at 37 °C: ≤±0,1	at 37 °C: ≤±0,1	at 37 °C: ≤±0,1
Temperature variation (spatial) (°C)	at 37 °C: ≤±0,5	at 37 °C: ≤±0,5	at 37 °C: ≤±0,4	at 37 °C: ≤±0,5	at 37 °C: ≤±0,5	at 37 °C: ≤±0,5
Capacity (l)	20	53	115	240	400	720
Convection type	Natural convection			Natural convection		
Shelves supplied (max.)	2 (3)	2 (4)	2 (5)	2 (7)	2 (10)	2 (15)
Internal W×D×H (mm)	222×277×330	400×330×400	600×400×480	800×500×600	1000×500×800	1000×600×1200
External W×D×H (mm)	435×610×495	635×665×620	835×735×705	1035×835×825	1235×855×1025	1235×955×1530
Nominal power consumption (W)	200	400	400	680	850	1250
Weight (kg)	26	43	61	93	135	191

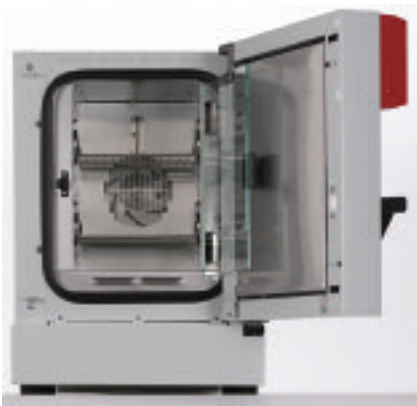
Type	Pk	Cat. No.
BD 23	1	390-6146
BD 53	1	390-6037
BD 115	1	390-6039
BD 240	1	390-6041
BD 400	1	390-6034
BD 720	1	390-6035

Models with forced convection

Model	BF 53	BF 115	BF 240	BF 400	BF 720
Temperature range (°C)	Ambient +5...100	Ambient +5...100	Ambient +5...100	Ambient +5...100	Ambient +5...100
Temperature fluctuation (time) (°C)	at 37 °C: ≤±0,2	at 37 °C: ≤±0,2	at 37 °C: ≤±0,2	at 37 °C: ≤±0,2	at 37 °C: ≤±0,1
Temperature variation (spatial) (°C)	at 37 °C: ≤±0,4	at 37 °C: ≤±0,3	at 37 °C: ≤±0,3	at 37 °C: ≤±0,4	at 37 °C: ≤±0,4
Capacity (l)	53	115	240	400	720
Convection type	Forced convection	Forced convection	Forced convection	Forced convection	Forced convection
Shelves supplied (max.)	2 (5)	2 (5)	2 (7)	2 (10)	2 (15)
Internal W×D×H (mm)	400×330×400	600×400×480	800×500×600	1000×500×800	1000×600×1200
External W×D×H (mm)	635×665×620	835×735×705	1035×835×825	1235×855×1025	1235×955×1530
Nominal power consumption (W)	400	400	680	850	1250
Weight (kg)	43	64	104	145	180

Type	Pk	Cat. No.
BF 53	1	390-0006
BF 115	1	390-0007
BF 240	1	390-0008
BF 400	1	390-0009
BF 720	1	390-0010

Refrigerated incubators, KB series
Binder



Refrigerated incubators are mainly used for culturing tasks that need to be carried out at temperatures below room temperature or if high ambient temperatures cannot be avoided. The DCT™ cooling system and the controllable fan guarantee high degrees of humidity even during cooling mode or prolonged testing, to protect samples from drying out. Design includes an internal glass door. Units up to 115 litres can be stacked on top of each other to save space. Safety features include an independent adjustable temperature safety device class 3.1 with a visual alarm, which saves the samples and the incubator. All units have a microprocessor programme controller, with LED display, with 2 programmes each with 10 sections; alternatively 1 programme with 20 sections and various timer functions; temperature monitor Class 3,1 (DIN 12880); elapsed time indicator. RS422 interface for communication software APT-COM™ DataControlSystem (software optional) or can be switched to printer output with accessory RS232/RS422 interface converter; adjustable printing intervals.

- Electronically controlled APT.line™ preheating chamber and DCT™ refrigeration system provide ideal conditions for temperature accuracy and reproducible results in both heating and cooling situations
- Minimal dehumidification of specimens and impressive performance
- Adjustable fan speed
- Foam insulation, contains no FCHCs, environmentally friendly refrigerant R 134a
- Cleaning and disinfection by hot air sterilisation at 100 °C

Model	KB 23	KB 53	KB 115	KB 240	KB 400	KB 720
Temperature range (°C)	0...+100	-5...+100	-5...+100	-5...+100	-5...+100	-5...+100
Temperature fluctuation (time) (°C)	at 25 °C: ±0,2	at 25 °C: ±0,1	at 25 °C: ±0,1	at 25 °C: ±0,1	at 25 °C: ±0,1	at 25 °C: ±0,1
Temperature variation (spatial) (°C)	at 25 °C: ±0,3	at 25 °C: ±0,2	at 25 °C: ±0,1	at 25 °C: ±0,2	at 25 °C: ±0,2	at 25 °C: ±0,2
Capacity (l)	20	53	115	240	400	700
Convection type	Forced convection	Forced convection	Forced convection	Forced convection	Forced convection	Forced convection
Shelves supplied (max.)	2 (3)	2 (4)	2 (5)	2 (9)	2 (15)	2 (15)
Internal W×D×H (mm)	222×277×330	400×330×400	600×400×480	650×485×785	650×485×1270	970×576×1250
External W×D×H (mm)	435×520×620	635×580×840	835×650×1025	930×800×1460	930×800×1945	1255×890×1925
Nominal power consumption (W)	340	460	460	1200	1400	2300
Weight (kg)	44	72	105	170	220	309

Delivery information: Supplied with 2 chrome plated racks and Binder test certificate. Calibrations and validations possible, for details please visit www.vwr.com or contact your local VWR sales office.

Type	Pk	Cat. No.
KB 23	1	390-6076
KB 53	1	390-6080
KB 115	1	390-6081
KB 240	1	390-0329
KB 400	1	390-0379
KB 720	1	390-0358

Cooled incubators, ICP series

Memmert



Compressor-cooled incubators with finely tuned control technology, the Perfect controller, which ensures deviations from the set point are minimised, guaranteeing the safety of temperature-sensitive living cultures at all times. Ideal for use where rapid and precise changes between heating up and cooling down phases in ramp mode are called for. Units have easy to clean stainless steel interior, with deep drawn ribbing, inner glass door, and stainless steel outer housing. Multifunctional microprocessor 'Perfect' PID-controller with 8-digit alphanumeric digital display, digital seven-day programme timer with real-time clock, precise minute setting, for one set value or start of ramp operation. All models have an adjustable over- and under- temperature safety device Class 3.3 (controller which takes over heating, alarm is triggered when set safety temperature is reached, incorporates fault diagnostics), saves the samples and the incubator and USB interface.



- Air jacketed heating system, rapid and precise temperature control, no possibility of the load drying out as the thermal jacket is separated from the interior, so the chamber does not dehumidify
- Integrated timer for temperature profiles of up to 40 ramps, each segment adjustable from 1 min up to 999 h
- Fan speed can be controlled and set in increments of 10% from 10% to 100% via controller

- Safety features include the Automatic Safety Function for over- and under-temperature, automatically follows the set point in a selectable tolerance range, protection Class 3.3
- Autodiagnostic system with fault indication and highly efficient automatic defrosting system

Model	ICP 400	ICP 500	ICP 600	ICP 700	ICP 800
Temperature range (°C)	0...+60	0...+60	-12...+60	-12...+60	-12...+60
Temperature fluctuation (time) (°C)	at 37 °C: ≤ ±0,1	at 37 °C: ≤ ±0,1	at 37 °C: ≤ ±0,1	at 37 °C: ≤ ±0,1	at 37 °C: ≤ ±0,1
Temperature variation (spatial) (°C)	at 10 and 37 °C: ≤ ±0,3	at 10 and 37 °C: ≤ ±0,3	at 10 and 37 °C: ≤ ±0,3	at 10 and 37 °C: ≤ ±0,3	at 10 and 37 °C: ≤ ±0,3
Capacity (l)	53	108	256	416	749
Convection type	Forced convection	Forced convection	Forced convection	Forced convection	Forced convection
Shelves supplied (max.)	2 (4)	2 (5)	2 (7)	2 (9)	2 (14)
Internal W×D×H (mm)	558×486×967	560×400×480	800×500×640	1040×500×800	1040×600×1200
External W×D×H (mm)	400×330×400	718×556×1047	958×656×1335	1198×656×1495	1198×756×1895
Power consumption (W)	500	500	700	750	1200
Weight (kg)	68	87	144	178	277

Delivery information: Supplied with two stainless steel grids, 'Celsius' software, a 32 kB MEMory card and works calibration certificate for +10 °C and +37 °C. A wide range of options including day/night simulation (24-hour cycle) programmable in conjunction with interior lighting are available. Calibration and validation to assist with GLP compliance are possible, for details please visit www.vwr.com or contact your local VWR sales office.

Type	Pk	Cat. No.
ICP 400	1	466-5209
ICP 500	1	466-5056
ICP 600	1	466-5210
ICP 700	1	466-5057
ICP 800	1	466-5058

Cooled incubators with Peltier technology, IPP series

Memmert



These accurate cooled incubators are designed for use in the temperature range from 5 to 70 °C. The forced air circulation in the interior is created by the Peltier circulation fan. Units have easy to clean stainless steel interior, with deep drawn ribbing, inner glass door, and stainless steel outer shell. All process functions are visible, additional language selection via set up is possible. All relevant data is logged for the long-term by a 1024 kB ring buffer serving as a data logger. USB serial interface with 'Celsius' programming and logging software, and a 32 kB MEMory card are also included. The ramp timer is designed for 40 variable ramps, each from 1 minute to 999 hours. The glass operating panel has a multifunction wideband display and input module.



- Adaptive, fuzzy-supported multifunctional 'Perfect' PID process controller with 8-digit alphanumeric digital display, digital seven-day programme timer with real-time clock, precise minute setting, for one set value or start of ramp operation
- Energy consumption reduced by up to 90% depending on working temperature, no cooling medium (no refrigerant waste) and minimal noise
- Safety features include the Automatic Safety Function - automatically follows the set point in a selectable tolerance range, adjustable over- and under- temperature safety device Class 3.3 (controller which takes over heating, alarm is triggered when set safety temperature is reached, incorporates fault diagnostics), saves the samples and the incubator
- Condensation, which is physically unavoidable, forms outside in the cooling element, not in the interior (no dripping water)

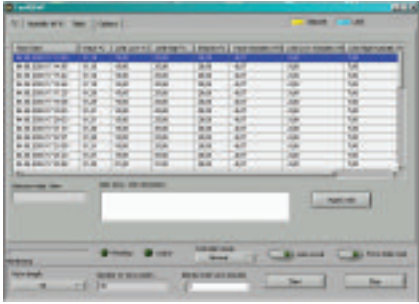
Model	IPP 200	IPP 300	IPP 400	IPP 500	IPP 800
Temperature range (°C)	5...70	5...70	5...70	5...70	5...70
Temperature fluctuation (time) (°C)	at 37 °C: ≤±0,1	at 37 °C: ≤±0,1	at 37 °C: ≤±0,1	at 37 °C: ≤±0,1	at 37 °C: ≤±0,1
Temperature variation (spatial) (°C)	at 10 and 37 °C: ≤±0,4	at 10 and 37 °C: ≤±0,4	at 10 and 37 °C: ≤±0,4	at 10 and 37 °C: ≤±0,4	at 10 and 37 °C: ≤±0,4
Capacity (l)	32	39	53	108	749
Convection type	Forced convection	Forced convection	Forced convection	Forced convection	Forced convection
Shelves supplied (max.)	1 (3)	1 (3)	2 (4)	2 (5)	2 (14)
Internal W×D×H (mm)	400×250×320	480×250×320	400×330×400	560×400×480	1040×600×1200
External W×D×H (mm)	550×490×600	630×490×600	550×550×680	710×620×760	1190×840×1620
Power consumption (W)	125	125	175	350	1050
Weight (kg)	33	36	43	66	218

Delivery information: Supplied with 'Celsius' software, a 32 kB MEMory card and works calibration certificate for +10 °C and +37 °C. IPP 200 and IPP 300 models supplied with one, other units supplied with two stainless steel grids. A wide range of options including interfaces and chip cards. Calibration and validation to assist with GLP compliance are possible, for details please visit www.vwr.com or contact your local VWR sales office.

Type	Pk	Cat. No.
IPP 200	1	390-0270
IPP 300	1	390-0238
IPP 400	1	390-0271
IPP 500	1	390-0272
IPP 800	1	390-0597

Software, data logging, APT-COM™ 3 DataControlSystem

Binder



With the APT-COM™ 3 DataControlSystem, Binder offers data communications software which fulfils all FDA regulations with respect to data safety. The structure of the programme interface is user friendly and allows clear and easy recording of measurement values and data administration. APT-COM™ 3 DataControlSystem is fully network-compatible. All data is available at any time via intranet or internet. The current process parameters can be retrieved online as HTML files. Measurement values can also be looked at from home at anytime. Alert messages only have to be transferred to preset telephone numbers including the mobile network. According to the computer hardware configuration, with APT-COM™ 3 up to 30 Binder laboratory instruments can be integrated and controlled using a standardised operator interface. The integration of APT-COM™ 3 under LIMS (for instance with Labview) is also possible. The wealth of registering and monitoring functions with variable graphs allows for safe working and complete logging of measurement data.

APT-COM™ 3 is available at three different performance levels for use with Binder units equipped with a data interface:

1) **Full Version** for applications according to FDA Directive 21 CFR part 11 in the GLP/GMP range

2) **Standard Version** with restricted data safety features

3) **Basic Edition** for simple data logging

Characteristics of the GLP/GMP Version of APT-COM™ 3 DataControlSystem: Matches FDA Directive 21 CFR part 11 with respect to:

- Individual user authorisation and identification through password protected access control or electronic signature
- Complete and detailed audit trail for all system interventions
- Data storage with protection against manipulation
- Automatic data backup
- Validability of overall system

Description	Pk	Cat. No.
APT-COM™ 3 Full (GMP/GLP) Version software	1	390-0235
APT-COM™ 3 Standard Version software	1	390-0233
APT-COM™ 3 Basic Edition software	1	390-0234

Universal refrigerators
Liebherr



Temperature range: +3 to +8 °C
These are general purpose refrigerators ideal for the storage of non critical products.

- Electronic temperature regulation, with digital display
- Off cycle defrost
- Interchangeable left or right hinged door

Other models available on request.

Model	K2320	K2620	K3120	K3660	K4230	K4260
Capacity (l)	219	258	309	348	413	398
Temperature (°C)	+3...+8	+3...+8	+3...+8	+3...+8	+3...+8	+3...+8
Display	digital	digital	digital	digital	digital	digital
Defrost	automatic	automatic	automatic	automatic	automatic	automatic
Alarm	audible and visual for temperature and door opening	no	no	audible and visual for temperature and door opening	audible and visual for temperature and door opening	audible and visual for temperature and door opening
Shelves/drawers	5 tempered glass shelves/-	5 tempered glass shelves/-	6 tempered glass shelves/-	5 tempered glass shelves/3 drawers	8 tempered glass shelves/-	8 tempered glass shelves/-
Energy class	A	A+	A+	A	A	A
W×D×H ext. (mm)	552×628×1168	600×632×1250	600×632×1447	600×630×1640	600×632×1841	600×630×1840
Weight (kg)	48	51	68	80	81	80

Type	Pk	Cat. No.
Freestanding refrigerator K2320 Comfort	1	472-0086
Freestanding refrigerator K2620	1	471-0500
Freestanding refrigerator K3120, Premium	1	471-0476
Freestanding refrigerator K3660, Premium	1	472-2376
Freestanding refrigerator K4230	1	471-0692
Freestanding refrigerator K4260, Premium	1	471-0127

Model	KT1430	KT1730	KTP1750	KB4250
Capacity (l)	137	151	156	337
Temperature (°C)	+3...+8	+3...+8	+3...+8	+3...+8
Display	-	-	digital	digital
Defrost	automatic	automatic	automatic	automatic
Alarm	no	audible and visual for temperature and door opening		
Shelves/drawers	4 tempered glass shelves/-	4 tempered glass shelves/-	4 tempered glass shelves/-	2 tempered glass shelves/-
Energy class	A	A	A++	B
W×D×H ext. (mm)	500×620×850	550×620×850	660×620×850	600×630×1840
Weight (kg)	46	46	37	80

Type	Pk	Cat. No.
Freestanding refrigerator, KT1430	1	471-0356
Freestanding KT1730	1	472-2017
Freestanding bench top KTP1750, Premium	1	471-0415
Freestanding KB4250, Premium	1	471-0325

Universal fridges/freezers combination, ventilated refrigeration compartment, no frost

Liebherr



Temperature range: +3 to +8 °C for the fridges and -20 °C for the freezers

- Freezer at bottom
- Automatic defrosting, refrigerator and freezer compartments
- Two separate doors, interchangeable hinges

Model	CN 3033	CN 3366	CN 3813	CN 5056	
Capacity (l)	197+79	224+89	269+89	330+122	
Temperature (°C)	Fridge: +3...+8 Freezer: -20	Fridge: +3...+8 Freezer: -20	Fridge: +3...+8 Freezer: -20	Fridge: +3...+8 Freezer: -20	
Air circulation	ventilated	ventilated	ventilated	ventilated	
Display	LED	digital	LED	digital	
Defrost	automatic (fridge and freezer)				
Alarm	audible for door opening (fridge and freezer)	audible and visual for temperature (freezer)			
Shelves/drawers	4 shelves, racks for bottles and can holder, vegetable bins for the fridge 3 drawers for the freezer				
Door(s)	Doors with interchangeable door hinges				
Door lock	no	no	no	no	
Specifications	2 separatety adjustable cooling circuits				
W×D×H ext. (mm)	550×630×1800	600×630×1810	600×630×1990	750×630×2000	
Type				Pk	Cat. No.
No frost combined fridge-freezer, Comfort CN 3033				1	471-0409
No frost combined fridge-freezer, Comfort CN 3366				1	472-2326
No frost combined fridge-freezer, Comfort CN 3813				1	471-0172
No frost combined fridge-freezer, Comfort CN 5056				1	472-0097

Universal combined fridge-freezers

Liebherr



Temperature: +3 to +8 °C for the fridges and -20 °C for the freezers

General purpose fridge-freezers ideal for the storage of non critical products.

- Freezer at bottom
- Automatic defrosting, refrigerator compartment
- Manual defrosting, freezer compartment
- Two separate doors, interchangeable hinges

Model	CUP 2221	CUP 2721	CUP 3021	CU 3503	
Capacity (l)	142/54	199/54	199/85	232/91	
Temperature (°C)	+3...+8 (fridge) -20 (freezer)	+3...+8 (fridge) -20 (freezer)	+3...+8 (fridge) -20 (freezer)	+3...+8 (fridge) -20 (freezer)	
Air circulation	non ventilated	non ventilated	non ventilated	non ventilated	
Display	-	-	-	LED	
Defrost	automatic (fridge only)				
Shelves/drawers	refrigerator: 3 tempered glass shelves/2 solid drawers freezer: -/2 solid drawers	refrigerator: 4 tempered glass shelves/2 solid drawers freezer: -/2 solid drawers	fridge: 4 tempered glass shelves/2 solid drawers freezer: -/3 solid drawers	refrigerator: 3 tempered glass shelves/2 solid drawers freezer: -/3 solid drawers	
Door(s)	2 solid (reversible)				
Material	exterior: enamel, white interior: polystyrol				
Energy class	A+	A+	A+	A+	
W×D×H ext. (mm)	550×630×1360	550×630×1600	550×630×1800	600×715×1817	
Weight (kg)	51	60	61	70	
Type				Pk	Cat. No.
Refrigerator/freezer, CUP 2221				1	472-2382
Refrigerator/freezer, CUP 2721				1	471-0469
Refrigerator/freezer, CUP 3021				1	471-0470
Refrigerator/freezer, CU 3503				1	471-0865



Test Tube Mixers	72
Balances	74
Measuring Cylinders	80
Temperature Measurement	81
Pipets & Accessoires	86
Colony Counters and Media Preparators	102
Inoculation	104
Bottles and Testtubes	108
Microscopy	111

Vortex mixer, VV3



Vortex mixer suitable for a range of different applications due to 3 interchangeable attachments and various inserts. Microtubes, microtitre plates, even 250 ml Erlenmeyer flasks can be attached by means of the specially designed strap. Attachments click securely onto the unit in any position. The unit is sturdy with coated, zinc die-casting.

- Small and compact design
- Wide speed range, infinitely adjustable
- Touch or continuous mode

IP protection class according to DIN EN 60529: IP 21



Shaking motion	Orbital
Orbital diameter (mm)	4
Speed range (min ⁻¹)	500 - 2500*
Max. capacity (ml)	250
Motor input/output (W)	58/10
W×D×H (mm)	127×149×136
Weight (kg)	4,5

* Depending on attachment and loading

Delivery information: Supplied with standard attachment for test tubes or small beakers.

Description	Pk	Cat. No.
VV3 Vortex mixer, EU-plug	1	444-0007
VV3 Vortex mixer, UK-plug	1	444-0093
VV3 Vortex mixer, CH-plug	1	444-0094

Accessories			
Description	For	Pk	Cat. No.
Standard attachment for test tubes, or small beakers	Continuous or touch mode	1	412-0099
Attachment for single handed operation, 88 mm round with rubber insert	Continuous or touch mode	1	412-0100
Universal attachment, 150 mm with rubber insert	Continuous mode	1	412-0101
Test tube attachment, for 54 microcentrifuge tubes, 1,5/2,0 ml*	Continuous mode	1	412-0102
Test tube attachment, for 18 reagent tubes, 10 mm*	Continuous mode	1	412-0103
Test tube attachment, for 12 reagent tubes, 12 mm*	Continuous mode	1	412-0104
Test tube attachment, for 8 reagent tubes, 16 mm*	Continuous mode	1	412-0105
Test tube attachment, for 8 reagent tubes, 20 mm*	Continuous mode	1	412-0106
Flask attachment for Erlenmeyer or round bottom flasks, 100 up to 250 ml*	Continuous mode	1	412-0107
Microtitre plate attachment for 1 standard microtitre plate*	Continuous mode	1	441-0036

* Use in combination with 412-0101

Vortex mixers, Vortex-Genie®

Scientific Industries



Rugged and reliable vortex mixers with solid metal casing and rubber feet that prevent them "walking". Vortex-Genie® 1 features touch-on operation and fixed speed, it is ideal for aggressive vortexing of difficult samples.

Vortex-Genie® 2 has variable speed for precise mixing from gentle to vigorous, it offers hands-free or touch-on control. Mixing action prevents spilling, even if tubes are uncapped.

Vortex-Genie® 2T has the same features as Vortex-Genie® 2, and in addition includes an integral timer function, it can also be used on continuous untimed mode.

- Wide range of attachments available
- Vortex-Genie® 2T timer function; touch-on 1 - 60 s, hands-free 1 - 60 min or continuous
- Can be used in cold room or incubator

Model	Vortex-Genie® 1	Vortex-Genie® 2	Vortex-Genie® 2T
Shaking motion	Orbital	Orbital	Orbital
Orbit (mm)	4	4	4
Speed range (min ⁻¹)	2700 fixed	600 - 2700	600 - 2700
Max. capacity (ml)	500*	500*	500*
W×D×H (mm)	122×165×165	122×165×165	122×165×165
Weight (kg)	4	4	4

* Depending on speed

Delivery information: Vortex-Genie® 1 is supplied with quick change standard pop-off cup for single test tubes. Optional 76 mm platform suitable for beakers, flasks and multiple tests tubes is available. Vortex-Genie® 2 and 2T are supplied with standard pop-off cup for single test tubes and 76 mm platform suitable for beakers, flasks and multiple tests tubes.

Description	Pk	Cat. No.
Vortex-Genie® 1 vortex mixer, EU-plug	1	444-9173
Vortex-Genie® 1 vortex mixer, UK-plug	1	444-0485
Vortex-Genie® 1 vortex mixer, CH-plug	1	444-9183
Vortex-Genie® 2 vortex mixer, EU-plug	1	444-5900
Vortex-Genie® 2 vortex mixer, UK-plug	1	444-0486
Vortex-Genie® 2 vortex mixer, CH-plug	1	444-9182
Vortex-Genie® 2T vortex mixer, EU-plug	1	444-9174
Vortex-Genie® 2T vortex mixer, UK-plug	1	444-0487
Vortex-Genie® 2T vortex mixer, CH-plug	1	444-9184

Accessories

Description	For	Pk	Cat. No.
Platform, Ø 75 mm without rubber cover	Vortex-Genies	1	444-5902
Rubber cover for Ø 75 mm platform	Vortex-Genies	1	444-5903
TurboMix attachment for 12×1,5/2,0 ml snap-top or screw-cap microtubes	Vortex Genie 2 and Vortex Pulse	1	444-0724

Scales, food portioning, FD series
Ohaus



A stainless steel portioning scale designed for use in food service applications, that is durable, easy to clean and gives a stable weight display within 2 seconds. The scale is capable of mains or battery operation with auto-off function to conserve power and has a typical battery life of 120 hours. Applications include check-weighing (positive and negative) with a three LED 'traffic light' indicator and audible alarm to guide the operator.

- Set-point key to enter target weight
- Levelling feet and front level bubble
- Supports HACCP compliance
- Backlit LCD display with 19 mm digits (height)
- External calibration

Delivery information: Supplied with mains transformer.

Model	Readability (g)	Weighing cap. (kg)	Pan (mm)	Pk	Cat. No.
FD3	0,5	3	209×209	1	611-1195
FD6	1	6	209×209	1	611-1196
FD15	2	15	209×209	1	611-1197

Precision balances, Pioneer series
Ohaus



The Pioneer series was designed for basic routine weighing in laboratory, industrial and education applications. Simple pre-programmed applications include parts counting and % weighing and selection of 19 weighing units.



- Simple three button operation with LCD display
- Two adjustable feet and front levelling bubble
- Selectable environmental settings
- Integral hook for below balance weighing
- Square draught shield with three sliding doors on 1 mg models

Ordering information: Models, denoted by C suffix, have internal calibration. OIML EC type approved models with internal calibration are denoted by CM suffix.

Model	Readability (g)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
PA4102C	0,01	4100	Ø 180	1	611-3918
PA4101	0,1	4100	Ø 180	1	611-3919

Precision balances, M-Power series
Sartorius Mechatronics



These precision balances are part of the M-class balances from Sartorius that present a reliable, 'no frills' and very good value option to meet the demands of fast, accurate weighing.



The M-Power range are designed for use in universities and as an entry level laboratory balance. Rugged reliable balances with average response times of 2 - 3 seconds. An internal rechargeable battery gives flexibility of operation and portability for most models except those denoted with *. An optional external battery pack can be used with all models.

- Simple operation with clear, easy to read display
- Sealed keypad for easy cleaning
- Round glass draught shield on AZ153 and AZ313
- Simple external calibration with predefined calibration weights
- RS232 interface as standard with optional USB adapter

Model	Readability (g)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
AZ612	0,01	610	Ø 116	1	611-1937
AZ3102	0,01	3100	174×143	1	611-1939
AZ6101	0,1	6100	174×143	1	611-1942

Precision balances, Cubis

Sartorius Mechatronics



MSU

The Cubis range represents a modular concept from Sartorius to allow the customer to choose the components that suit the application area that is of interest. For the customer, the modular concept delivers quality weighing together with a high degree of flexibility without having to invest in expensive equipment that has some features that may never be required.

Three different display and control units are available to cover all facets of laboratory applications and enable a range of options for balance operation. The customer can then add the appropriate weighing platform to the choice of control unit.

- All models have removable control units and displays
- Manual operation draught shields are supplied as standard on precision milligram models (denoted -DE)
- RS232 and USB interfaces are included, and additionally on MSA and MSU models an Ethernet interface with implemented web services, plus SD card reader are included
- Easy to upgrade separate modules
- Iso-CAL; fully automatic calibration and adjustment

MSU control unit

- High resolution black and white, graphical and tiltable display
- APC (Advanced Pharma Compliance) to meet the stringent requirements of the pharmaceutical industry

- Suitable for wide ranging complex weighing tasks and includes SD card reader for transfer of not only data but task configurations and settings from balance to balance or to PC
- Q-pan; compensation of off-centre loading effects/errors
- Q-Level; intelligent warning function to detect if balance is perfectly level and provide adjustment prompts for the user to correct and re-level the balance

MSE control unit

- Black and white basic backlit LCD display
- Ideal for straightforward high accuracy weighing

As an example the model MSU8201S-000-D0 where the modules are described as follows:
MSU = Monochrome applications display module with cursor navigation keys
8201S-000 = 8200 g, one decimal place weighing module, not verified for use in legal metrology
-D0 = No draught shield

Ordering information: VWR offers a range of pre-configured models that address most common application areas. For the full range of available configurations, including a range (0CE suffix) of verified versions for use in legal metrology in the European Economic area, please contact VWR sales office.

Model	Weighing cap. (g)	Readability (g)	Pan (mm)	Pk	Cat. No.
MSU control unit					
MSU323S-000-DE	320	0,001	140×140	1	611-1767
MSE control unit					
MSE623S-000-DE	620	0,001	140×140	1	611-1750
MSE1202S-000-D0	1200	0,01	206×206	1	611-1790
MSE2202S-000-D0	2200	0,01	206×206	1	611-1793
MSE4202S-000-D0	4200	0,01	206×206	1	611-1797
MSE8201S-000-D0	8200	0,1	206×206	1	611-1801
MSE12201S-000-D0	12200	0,1	206×206	1	611-1792

Accessories

Description	Pk	Cat. No.
Density determination kit for solids and liquids for modules with a readability of 1 mg	1	611-2527

Industrial scales, Valor™ 3000 Xtreme
Ohaus



A compact, portable scale suitable for use in a wide range of applications including the food industry where dry or wet conditions are normal. The Valor™ Xtreme features a stainless steel housing, a removable stainless steel weighing pan and a bright backlit display. The software applications are designed for simple use and maximum throughput and include percent weighing and specific gravity. User adjustable filtering and stability settings allow the Valor™ 3000 Xtreme to operate accurately in draughty and unstable conditions. Digital external span calibration with specified weights. OIML EC type approved models, denoted by M suffix e.g. VX31XW6M, are also available on request.



- Portable operation in battery power mode
- IP 65 water resistant - for simple wash down in battery mode
- SmarText™ interface for user friendly simple text prompts
- QuadraStance™ adjustable feet and level bubble for stability
- Overload (x10 capacity) and shock protection for tough environments

Delivery information: Supplied with AC adapter as standard. Batteries (4× C-type/ LR14) are not included.

Model	Readability (g)	Weighing cap. (kg)	Pan (mm)	Pk	Cat. No.
V31XW301	0,1	0,3	158×146	1	611-3892
V31XW3	0,5	3	158×146	1	611-3893
V31XW6	1,0	6	158×146	1	611-3894

Disposable weighing boats



PS, square

These flexible weighing boats with smooth surfaces enable accurate pour-outs with minimal sample loss. They are biologically inert and resistant to dilute and weak acids, aqueous solutions, alcohols and bleaches. Ideal for use with microwaves, balances or moisture analysers.



- Shallow form with wide, flat bottom avoids tipping
- Rounded corners simplify transfer
- Temperature resistant up to +70 °C

Capacity (ml)	W×D×H (mm)	Colour	Pk	Cat. No.
Standard				
7	46×46×8	Blue	500	611-9168
7	46×46×8	Black	500	611-9175
7	46×46×8	White	500	611-0093
100	85×85×24	Blue	500	611-9169
100	85×85×24	Black	500	611-9176
100	85×85×24	White	500	611-0094
250	140×140×22	Blue	500	611-9170
250	140×140×22	Black	500	611-9177
250	140×140×22	White	500	611-0095
Anti-static version				
7	46×46×8	Black	500	611-9181
7	46×46×8	White	500	611-9178
100	85×85×24	Black	500	611-9182
100	85×85×24	White	500	611-9179
250	140×140×22	Black	500	611-9183
250	140×140×22	White	500	611-9180

Disposable weighing boats



PS, diamond shaped

These flexible boats feature smooth surfaces to provide accurate pour-outs with minimal sample loss. They are biologically inert and resistant to dilute and weak acids, aqueous solutions, alcohols and bases. Ideal for use with microwaves and moisture analysers.

- Wide, flat bottom avoids tipping
- Temperature resistant up to +70 °C

Capacity (ml)	W×D×H (mm)	Colour	Pk	Cat. No.
Standard				
5	55×35×6	Black	500	611-1996
5	55×35×6	White	500	611-1993
25	80×50×14	Black	500	611-9184
25	80×50×14	White	500	611-0097
30	80×60×14	Black	500	611-9185
30	80×60×14	White	500	611-9161
100	125×100×19	Black	500	611-9186
100	125×100×19	White	500	611-9162
Anti-static version				
5	55×35×6	Black	500	611-1995
5	55×35×6	White	500	611-1994
25	80×50×14	Black	500	611-9190
25	80×50×14	White	500	611-9187
30	80×60×14	Black	500	611-9191
30	80×60×14	White	500	611-9188
100	125×100×19	Black	500	611-9192
100	125×100×19	White	500	611-9189

Calibration weights, class F1



Weights made from anti-magnetic, polished stainless steel. Suitable for medium resolution precision electronic balances. Weights have adjustment cavities for weights of more than 20 g.



- Wire weights up to 500 mg
- Identification number guarantees traceability for weights from 1 g upwards
- Available with or without COFRAC certificate

Conform to OILM R111 recommendations.

Ordering information: All weights from 1 mg to 20 kg are available with or without COFRAC certificate - please visit www.vwr.com or contact your local VWR sales office. A range of sets of weights are also available - please search for product "Calibration weight sets, class F1".

Weight	Tolerance (± mg)	Pk	Cat. No.
F1 weights in plastic cases with certificate			
1 mg	0,020	1	611-8231
2 mg	0,020	1	611-8232
5 mg	0,020	1	611-8233
10 mg	0,025	1	611-8234
20 mg	0,03	1	611-8235
50 mg	0,04	1	611-8236
100 mg	0,05	1	611-8237
200 mg	0,06	1	611-8238
500 mg	0,08	1	611-8239
1 g	0,10	1	611-8240
2 g	0,12	1	611-8241
5 g	0,15	1	611-8242
10 g	0,20	1	611-8243
20 g	0,25	1	611-8244
50 g	0,30	1	611-8245
100 g	0,50	1	611-8246
200 g	1,0	1	611-8247
500 g	2,5	1	611-8248
1 kg	5	1	611-8249
2 kg	10	1	611-8250

Calibration weight sets, class F1



Weights made from anti-magnetic, polished stainless steel. Suitable for medium resolution precision electronic balances. Weights have adjustment cavities for weights of more than 20 g.

- Wire weights up to 500 mg
- Identification number guarantees traceability for weights from 1 g upwards
- Available with or without COFRAC certificate

Conform to OILM R111 recommendations.

Set	Weights included													
		1 mg	2 mg	5 mg	10 mg	20 mg	50 mg	100 mg	200 mg	500 mg				
1 - 500 mg		1	2	1	1	2	1	1	2	1				
	Includes	1 g	2 g	5 g	10 g	20 g	50 g	100 g	200 g	500 g	1 kg	2 kg	5 kg	10 kg
1 mg - 100 g	1 - 500 mg set	1	2	1	1	2	1	1						
1 mg - 200 g	1 - 500 mg set	1	2	1	1	2	1	1	2					
1 mg - 500 g	1 - 500 mg set	1	2	1	1	2	1	1	2	1				
1 mg - 1 kg	1 - 500 mg set	1	2	1	1	2	1	1	2	1	1			
1 mg - 2 kg	1 - 500 mg set	1	2	1	1	2	1	1	2	1	1	2		
1 mg - 5 kg	1 - 500 mg set	1	2	1	1	2	1	1	2	1	1	2	1	
1 mg - 10 kg	1 - 500 mg set	1	2	1	1	2	1	1	2	1	1	2	1	1
1 g - 100 g		1	2	1	1	2	1	1						
1 g - 200 g		1	2	1	1	2	1	1	2					
1 g - 500 g		1	2	1	1	2	1	1	2	1				
1 g - 1 kg		1	2	1	1	2	1	1	2	1	1			
1 g - 2 kg		1	2	1	1	2	1	1	2	1	1	2		
1 g - 5 kg		1	2	1	1	2	1	1	2	1	1	2	1	
1 g - 10 kg		1	2	1	1	2	1	1	2	1	1	2	1	1

Ordering information: All weight sets listed in the 'set contents' table are available with or without COFRAC certificate - please visit www.vwr.com or contact your local VWR sales office. Weights are also available individually - please search for product "Calibration weights, class F1".

F1 Weight sets in plastic cases with certificate				
Weight set	No. of weights	Total weight (g)	Pk	Cat. No.
1 mg - 500 mg	12	1,11	1	611-8461
1 mg - 100 g	21	211,11	1	611-8462
1 mg - 200 g	23	611,11	1	611-8463
1 mg - 500 g	24	1111,11	1	611-8464
1 g - 100 g	9	210	1	611-8465
1 g - 200 g	11	610	1	611-8466
1 g - 500 g	12	1110	1	611-8467

Calibration weights, class F1, Cal-Box, 3-weight set, certified



An economical range of calibration sets, with only three stainless steel weights, to meet routine calibration requirements of precision and analytical balances.

- Class F1 tolerances
- Each set has a individual serial number and calibration certificate
- Each weight, from 1 g upwards, has a unique identification number for traceability

Delivery information: Weights supplied in modern aluminium case with tweezers and balance brush

Weight set	Type	Pk	Cat. No.
200 mg; 5 g; 50 g	With certificate	1	611-2428
200 mg; 10 g; 100 g	With certificate	1	611-2429
200 mg; 20 g; 200 g	With certificate	1	611-2430
200 mg; 50 g; 500 g	With certificate	1	611-2432
2 g; 20 g; 200 g	With certificate	1	611-2431
2 g; 50 g; 500 g	With certificate	1	611-2433
2 g; 100 g; 1 kg	With certificate	1	611-2434
20 g; 100 g; 1 kg	With certificate	1	611-2435
20 g; 200 g; 2 kg	With certificate	1	611-2436
20 g; 500 g; 5 kg	With certificate	1	611-2437

Anti-vibration weighing surface



Polished granite

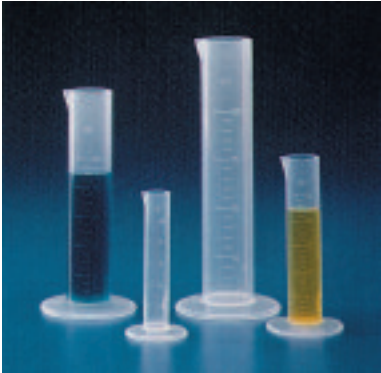
Four absorbing feet dampen the transmission of extraneous vibrations to this slab making it suitable for not only high precision weighing but also microscopy and other similar delicate instrumentation.

Weight: 44 kg

Description	W×D×H (mm)	Pk	Cat. No.
Anti-vibration weighing surface, granite	560×450×65	1	611-2536

Measuring cylinders

Kartell



PP, translucent, short form, autoclavable

- With lip and circular base
- Excellent chemical resistance
- Permanent moulded graduations



Capacity (ml)	Division (ml)	Height (mm)	Ø (mm)	Pk	Cat. No.
10	0,25	88	16	1	612-4722
25	1	107	22	1	612-4724
50	2,5	143	29	1	612-4726
100	5	178	34	1	612-4728
250	10	264	45,5	1	612-4730
500	10	305	55,5	1	612-4732
1000	25	332	70	1	612-4734
2000	50	370	92	1	612-4736

Temperature indicating strips



These indicators are designed for rapid measurements where conventional thermometers are impractical. For use with laboratory equipment such as heating chambers and products sensitive at high temperatures.

- Self-adhesive and irreversible (eight points)
- Fast response within one second
- Storage at maximum 25 °C for up to two years

Range (°C)	Accuracy (°C)	Pk	Cat. No.
37...65	±1	10	620-9102
71...110	±1	10	620-9103
116...154	±1	10	620-9104
160...199	±1	10	620-9105
204...260	±1	10	620-9106

Digital thermometers, triple display, Traceable® Jumbo



Bottle sensor in glycol solution

The Jumbo digital thermometers are suitable for monitoring freezers, water baths, heating blocks, incubators and refrigerators. A bottle insulates the sensor from rapid temperature changes when the refrigerator door is opened.

- Triple display: Maximum/minimum and current probes plus room temperature
- Out of range alarm programmable in 1 °C increments
- Eliminates concerns about incidental contact with food or drinking water

Conform to NIST
Fulfills CDC and vaccine thermometer requirements

Delivery information: Supplied with a Traceable® certificate, a slot for wall mounting, Velcro® and magnetic strips to attach to any surface, one AAA battery, with sensor and solid state probe.

Description	Range (°C)	Resolution (°C)	Accuracy (°C)	W×D×H (mm)	Weight (g)	Pk	Cat. No.
Digital thermometer, Traceable® Jumbo, with solid state probe	-50...+70	0,1	±1	99×111×22	113	1	620-1584

Core thermometers, waterproof



Stainless steel probe, 125 mm or 203 mm

These thermometers are suitable for measurements in food, beverage processing and storage applications, agriculture, education or pharmaceutical and laboratory use.

- Maximum/minimum memory
- Quick, accurate, easy to read
- Automatic off after 10 minutes of non use

Delivery information: Supplied with a probe, a plastic probe cover, pocket clip and a LR44 battery.

Range (°C)	Resolution (°C)	Accuracy (°C)	W×D×H (mm)	Weight (g)	Pk	Cat. No.
-50...+200	0,1	±0,5 °C (-20...70); ±1 °C (-50...-20; 70...150); ±2 °C >150	19×19×209,6	68	1	620-0910
-50...+280	0,1	±0,5 °C (-20...70); ±1 °C (70...120); ±2 °C (-50...-20; 120...150)	19×10×285,8	68	1	620-0914

Digital thermometer, Traceable®



Type K beaded probe and 1,20-metre cable

The water resistant case of this thermometer can stop dirt, dust, fumes and water. A fast-response microprocessor updates the display twice a second.

- Extra large digits (16 mm) readable from two metres away
- Minimum and maximum readings captured at any time
- Alarm in 1 °C increments above or below set points
- Timer from 23 hours 59 minutes to 1 minute
- "Hold" button

Conforms to NIST

Delivery information: Supplied with protective casing with a flip-out stand, a certificate, three AAA batteries and a fast-response probe.

Range	Resolution (°C)	Accuracy (°C)	W×D×H (mm)	Weight (g)	Pk	Cat. No.
-40...+250 °C*	0,1; 1	±1 ±2 (>740)	83×38×178	227	1	620-2006

Probes						
Description	Range (°C)			Pk	Cat. No.	
Stainless steel probe type K, with 1 m cable	-50...700			1	620-2005	
Fast response thermocouple probe type K, with 1,2 m coated cable	-40...250			1	620-2012	

* Values are valid for the included Type K (NiCr-NiAl) beaded probe with a PTFE coated wire. The thermometer can measure temperatures from -200 to 1370 °C with suitable probes that need to be ordered separately.

Precision thermometers, FRIO-Temp®



Black spirit

These thermometers are suitable for applications with freezers, refrigerators, incubators, ovens and blood banks. Simple to use, screw thermometer with cap into bottle and attach to test sample.

- Very accurate
- No hazard of mercury
- Individual serial number

Division: 0,1 °C
Conform to NIST and DKD

Delivery information: Supplied with a statement of accuracy plus Velcro® and magnetic attachments in recyclable packaging.

Description	Range (°C)	Accuracy (°C)	Length (mm)	Pk	Cat. No.
Freezers	-25...-5	±0,2	210	1	620-0837
For refrigerators	-2...+10	±0,5	180	1	620-0838
For incubators	15...30	±0,2	180	1	620-0839
For incubators	25...45	±0,2	190	1	620-0840
For ovens	95...115	±0,2	200	1	620-0841

Digital-Bottle™ refrigerator thermometer, Traceable®



Waterproof, non toxic glycol bottle probe

This thermometer accurately monitors temperatures in freezers, refrigerators, incubators, and environmental chambers. Bottle and solution insulate the sensor from rapid temperature changes.

- Easy to read digital display
- High, low and current temperatures
- Minimum/maximum monitoring of high/low readings for any time period

Solution recognised as safe by the FDA.

Delivery information: Supplied with an individually serial numbered Traceable® certificate indicating traceability to NIST, a plastic holder, Velcro™ and double back tape for wall-mounting and a replaceable silver-oxide battery.

Range (°C)	Resolution (°C)	Accuracy (°C)	W×D×H (mm)	Probe	Pk	Cat. No.
-30...+50	0,1	±1	56×25×110	Bottle probe	1	620-1826

Core thermometers, TD 10, TD 11 and TD 12



Stainless steel probe

These hand held thermometers deliver good performance and a high level of accuracy.

- Fast measurement
- Robust and impact resistant
- One-point factory calibration certificate (TD 10/TD 11: 0 °C; TD 12: 100 °C)

W×D×H: 20×90×42 mm
Conform to IEC 584 - IP 55 (620-1638 and 620-1639), IP 40 (620-1640)

Delivery information: Supplied with a clip holder to carry the thermometer safe on the belt and a replaceable lithium 3 V CR 2032 battery for approx. 100 hours when used continuously. 620-1640 should be ordered with an appropriate type K probe.

Description	Range (°C)	Resolution	Accuracy (°C)	Pk	Cat. No.
TD 10, type T probe (110×3 mm)	-50...+350	0,1 °C (-60...+199,9) 1 °C (>200)	±0,8	1	620-1639
TD 11, 600 mm cable and type T probe (110×3 mm)	-50...+350		±0,8	1	620-1638
TD 12, SMP connection	-60...+1200		±1	1	620-1640



Probes					
Description	Range (°C)	Ø×L (mm)	Application	Pk	Cat. No.
Type K probe with handle and 1 m cable, TKS 100	-200...+400	3×130	Penetration	1	620-1648
Type K probe with paddle, handle and 1 m cable, TKS 200	-200...+400	7×40	Surface	1	620-1649
Type K probe, with handle and 1 m cable, TKS 300	-200...+1000	3×130	Immersion	1	620-1650
Type K probe, with handle and 1 m cable, TKS 400	-200...+400	4,7×130	Air	1	620-1651

Infrared and thermocouple thermometer, Traceable®



Stainless steel probe (152×12 mm)

This HACCP - Hazard Analysis and Critical Control Point - thermometer is designed for labs, food processing, food preparation and brewing. The waterproof construction allows it to be used in labs, plants and wash-down areas.

- Field of view ratio: 2,5:1
- Current, minimum and maximum temperatures
- Emissivity adjustable from 0,1 to 1,0 - by default: 0,95
- LEDs indicate the HACCP zones: green under 4 °C and over 60 °C and red light between 4 to 60 °C

Delivery information: Supplied with a battery and a low battery indicator, a serial-numbered Traceable® certificate that indicates traceability to standards provided by NIST.

Range (°C)	Resolution (°C)	Accuracy (°C)	W×D×H (mm)	Weight (g)	Pk	Cat. No.
-55...+250*	0,2 (-10...+200); 1	±0,6*	165×38×2,5	100	1	620-1806
-55...+330**		±0,5** (5...65 °C)				

* infrared ** probe

Dual infrared and core thermometer, TLC 730

Ebro



Infrared for surface temperature - thermocouple for core temperature

This instrument is suitable for process monitoring, measurements and control tasks in food products industry. It provides fast, exact temperature monitoring for transport, storage and cooling chambers and for incoming goods inspections.

- Infrared dual laser to point out measuring spot size
- Optics D:S=8:1 and adjustable emissivity of 0,1 to 1
- Visible and audible alarm by exceeding/shortfall of limit value

EN 60825-1

Delivery information: Supplied with a two-point factory calibration certificate (−18 °C and 60 °C), punching pin for frozen food, two AAA replaceable batteries and manual.



Range (°C)	Resolution (°C)	Accuracy (°C)	W×D×H (mm)	Weight (g)	Pk	Cat. No.
−50...+350	0,1	±4 (−50...−30) ±1 (0...65)* ±0,8 (−18...120) ±1 (rem. range)**	48×24×172	140	1	620-1556

* infrared ** core temperature

Accessories						
Description					Pk	Cat. No.
AG 121, nylon belt case for TLC 730					1	620-1356

Temperature chart recorders, disposable, Traceable®



These recorders can monitor temperature measurements in refrigerators, supply rooms, food storage, chemical warehouses, animal quarters, incubators, goods-in-transit, walk-in chambers, biological materials and manufacturing plants.

- Charted copy of temperature
- Records for 10 or 40 days
- Tamper evident seal to maintain the integrity of unit and results

Conform to NIST

Delivery information: Supplied with AA alkaline battery.

Description	Range (°C)	Accuracy (°C)	W×D×H (mm)	Weight (g)	Pk	Cat. No.
10 days	−28...+38	±1	146×98×63	283	1	620-1667
40 days	−28...+38	±1	146×98×63	283	1	620-1668

USB loggers, EBI 300 & 310

Ebro



These loggers with USB connection need no interface for programming or readout. Automatic PDF report generation means that no software is needed. The EBI 300 is designed for temperature monitoring related to HACCP/IFS issues or other perishable goods (EN 12830, ATP, VO(EG) 37/2005 compliant). The EBI 310 is suitable for pharmaceutical, medical or other perishable goods, transportation of drugs, vaccines and blood products, monitoring of very low temperature and cryogenics.



- For the transportation and storage of thermosensitive products
- LED display: Minimum and maximum values
- Alarm indicator that conforms with WHO standards

Conform with IP 65

W×D×H: 80×34×14 mm

Weight: 35 g - battery included

Delivery information: Supplied with a battery for two years of use.

Description	Range (°C)	Accuracy (°C)	Resolution (°C)	Memory	Pk	Cat. No.
USB datalogger, EBI 300 with NTC probe	−30...+60	±0,5 (−20...40) otherwise ±0,8	0,1	40000 values	1	620-1815
USB datalogger, EBI 310 with PT1000 probe	−30...+60	±0,2	0,1	40000 values	1	620-1814

Probes			
Description	Range (°C)	Pk	Cat. No.
External probe TPC 300, for EBI 300	−35...+75	1	620-1860
External probe, for EBI 310	−200...+85	1	620-1861
External probe, for EBI 310	−85...+50	1	620-1863

Accessories		
Description	Pk	Cat. No.
Wall mount	1	620-1859

Safety pipette fillers, universal



Universal

Natural rubber

- For measuring and volumetric pipettes up to 10 ml (Standard) or 100 ml (Universal/Flip)
- Standard/Universal: Three ventilation valves
- Flip: Only two operating points for easier usage (Release through an automatic removable valve)

Description	Colour	Pk	Cat. No.
Safety pipette filler Universal	Red	1	612-1931
Safety pipette filler Universal	Yellow	1	612-2005



Pipette filler, Manupette



The Manupette pipette filler can be used with glass or plastic pipettes from 1 to 100 ml to facilitate the pipetting of a wide range of liquids. The practical arrangement of the controls makes work easier and gives maximum safety during serial pipetting.

- Replaceable hydrophobic membrane filter to protect the instrument from liquid penetration
- Separate buttons for aspirating/dispersing and discharging
- Silicone adapter for leakproof positioning of each pipette

Ordering information: Supplied with three separate nose cones in three different colours.

Description	Pk	Cat. No.
Pipette filler Manupette	1	612-4548



Pipette filler, Smoothie™



For glass and plastic pipettes from 1 to 25 ml

The Smoothie™ pipette filler is a simple manual pipetting aid for convenient single handed operations. The unique range control allows selection from a choice of two dispense resolutions. One range setting delivers fast filling with optimal accuracy when used with 10 to 25 ml pipettes, the other setting is for use with pipettes from 1 to 10 ml where accuracy of fill can sometimes be difficult to control.

- Comfortable and simple to use
- Smooth and controllable thumb action
- Silicone adapter for leakproof positioning of each pipette

Description	Pk	Cat. No.
Pipette filler Smoothie™	1	612-4546



Pipette controller, Accurpette



For glass and plastic pipettes from 1 to 100 ml

The Accurpette pipette controller delivers efficient performance with a powerful but quiet motor to speed up large volume pipetting. The mode selection switch enables the user to choose between high or low aspirate/dispense speed. An additional gravity dispense mode is designed for use with 'To Deliver' (TD) pipettes. The Accurpette is now delivered with additional coloured nose cones to allow laboratory, application or user colour coding to minimise the risk of cross contamination.

- Lightweight UV resistant body (180 g) and nose cones
- Fills a 25 ml pipette in under three seconds on its fastest setting
- Autoclavable silicone pipette holder
- Replaceable hydrophobic membrane filter protects the unit against liquid influx and protects samples against contamination
- Environmentally friendly rechargeable NiMH battery allow continuous usage for 4 hours; Low battery light, rechargeable during use

Ordering information: Supplied with charger, two spare hydrophobic filters (1×0.45 µm, 1×0.2 µm), bench stand/wall bracket and a coloured nose cones set.

Description	Pk	Cat. No.
Pipette controller Accurpette, EU-charger	1	612-4552
Pipette controller Accurpette, UK-charger	1	612-4553



Pipette controller, accu-jet® pro
Brand



For glass and plastic pipettes from 0,1 to 200 ml

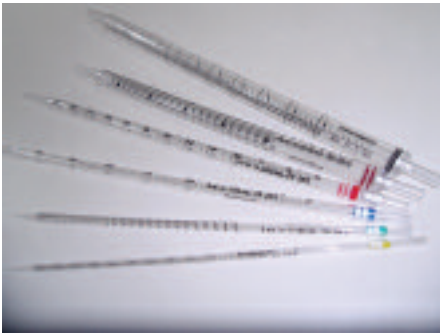
- Selection of gravity delivery or powered blow-out using one hand, infinitely adjustable motor speed and control of pipetting speed using pipetting buttons
- Intelligent electronic system prevents overloading
- Flashing LED indicates low battery
- Silently aspirates 50 ml in one go in just 10 seconds
- Operates for up to eight hours with 10 ml pipette
- Can be kept in the wall holder or placed on its back to keep the pipette away from work surfaces

Weight: 190 g

Ordering information: Supplied with a rechargeable NiMH battery, two lids for the battery compartment, wall holder, battery charger, two spare 0.2 µm membrane filters.

Description	Pk	Cat. No.
accu-jet® pro, dark blue, with battery charger for EU (230V/50 Hz)	1	612-2625
accu-jet® pro, dark blue, with battery charger for UK (230V/50 Hz)	1	612-2881
accu-jet® pro, magenta, with battery charger for EU (230V/50 Hz)	1	612-2626
accu-jet® pro, magenta, with battery charger for UK (230V/50 Hz)	1	612-2882
accu-jet® pro, green, with battery charger for EU (230V/50 Hz)	1	612-2627
accu-jet® pro, green, with battery charger for UK (230V/50 Hz)	1	612-2883
accu-jet® pro, royal blue, with battery charger for EU (230V/50 Hz)	1	612-2628
accu-jet® pro, royal blue, with battery charger for UK (230V/50 Hz)	1	612-2884

Serological pipettes, Standard Line



PS, graduated, sterile

- Graduations are calibrated for accurate dispensing to within ±2%
- Colour-coded stripes for quick volume identification
- Non pyrogenic

Packaging: Individually wrapped in paper-plastic bags or bulk packed in bags.

Capacity (ml)	Division (ml)	Colour code	Packed	Pk	Cat. No.
1	0,01	Yellow	Individual	1.000	612-3707
1	0,01	Yellow	25/bag	1.000	612-3705
2	0,01	Green	Individual	800	612-3704
2	0,01	Green	25/bag	700	612-3703
5	0,10	Blue	Individual	300	612-3702
5	0,10	Blue	25/bag	500	612-3701
10	0,10	Red	Individual	200	612-3700
10	0,10	Red	25/bag	350	612-3699
25	0,20	Lilac	Individual	200	612-3698
25	0,20	Lilac	25/bag	350	612-3697
50	1,00	Black	Individual	100	612-3696
50	1,00	Black	25/bag	250	612-3695



Graduated pipettes, BLAUBRAND®, type 3, total delivery
Brand



AR-Glas®, class AS, conformity certified

- Calibrated to deliver (TD, Ex); type 3: Zero on top
- Marks and inscriptions in high contrast blue enamel

DIN EN ISO 835

Length: 360 mm ±10 mm except for 25 and 50 ml pipettes: 450 mm ±10 mm

Capacity (ml)	Division (ml)	Tolerance (± ml)	Suppl. to DIN	Pk	Cat. No.
0,1	0,001	0,001	-	1	612-1101
1*	0,01	0,007	-	1	612-1106
2*	0,02	0,01	-	1	612-1110
5*	0,05	0,03	-	1	612-1112
5*	0,1	0,03	-	1	612-1113
10*	0,1	0,05	-	1	612-1114
20*	0,1	0,1	-	1	612-1115
50*	0,5	0,2	✓	1	612-1117

* With cotton plug end

Graduated pipettes, type 3, total delivery
Hirschmann Laborgeräte



AR-Glas®, class B

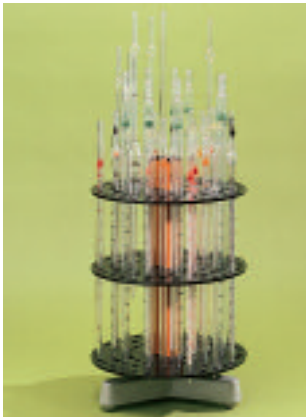
- Calibrated to deliver 'Ex'
- Short line graduation, graduated to the tip, zero at the top, amber graduation
- From 5 ml with a cotton plug at the upper end as standard

DIN 12696

Length: 360 mm ±5 mm except for 25 and 50 ml pipettes: 450 mm ±5 mm

Capacity (ml)	Division (ml)	Tolerance (± ml)	Suppl. to DIN	Pk	Cat. No.
1	0,01	0,01	-	1	612-1068
2	0,02	0,015	-	1	612-1070
5	0,05	0,045	-	1	612-1096
5	0,1	0,045	✓	1	612-1097
10	0,1	0,075	-	1	612-1098
20	0,1	0,15	✓	1	612-1075
50	0,2	0,3	✓	1	612-3401

Pipette stand, rotary, tripods



- For holding up to 84 pipettes of different sizes
- Sturdy tripod ensures a firm footing
- Three levels for secure, clear storage of pipettes

Total height: 350 mm

Description	Pk	Cat. No.
Pipette stand, rotary, tripods, for 84 pipettes	1	241-0010



Pipette stand
Kartell



- PP**
- For 8 pipettes diameter <10 mm and 8 pipettes diameter <15 mm
 - Small holes in base allow drainage
- W×D×H: 200×75×150 mm

Description	Pk	Cat. No.
Pipette stand, PP, 200×75×150 mm	1	612-1812

Sterilisation boxes for pipettes



- Anodised aluminium, with square base, autoclavable**
- With built-in sterilisable silicone pads to prevent damage to pipettes during sterilisation and transport
 - The square section of the can allows stacking and will not roll off the bench



W×D×H (mm)	Pk	Cat. No.
70×70×410	1	612-2591
70×70×458	1	612-2592

Bulbs for pipettes



- Natural latex**
- For Pasteur pipettes, small pipettes, and medical drop counters
- Capacity: 1 - 2 ml
- Length: 38 - 57 mm

Description	Pk	Cat. No.
Dropper bulbs, 1 ml, 38 mm	72	612-2691
Dropper bulbs, 2 ml, 57 mm	72	612-2693



Pasteur pipettes



- Glass, disposable, non sterile**
- Automated manufacturing process ensuring total uniformity of production
 - Tapered upper opening for cotton ball plugging
 - Top body outer diameter: 7,1 mm, wall thickness: 0,53 mm, jet outer diameter: 1,50 mm

Description	Capacity (ml)	Length (mm)	Pk	Cat. No.
Non plugged	2,0	230	250	612-1702
Pre-plugged	2,0	150	250	612-1798
Pre-plugged, breakable tip	2,0	270	250	612-3861





Transfer pipettes, all-in-one



LDPE, disposable

These unbreakable all-in-one pipettes eliminate the hazard of broken glass and exposure to infectious materials. The low-affinity surface reduces the loss of cells and valuable proteins due to binding. They work well whenever there is a need for quick, safe transfer of fluids.

- Will not shatter or break
- Non toxic and inert to biological fluids and most acids
- Can be sealed and refrigerated; can be gas sterilised
- No bulb to insert or remove
- Uniform drop size



Graduated, large bulb

Capacity (ml)	Drop vol. (µl)	Suction volume (ml)	Graduation (ml)	Length (mm)	Sterile	Packed	Pk	Cat. No.
5,8	40	3,4	0,25	155	-	Bulk	500	612-4494
5,8	40	3,4	0,25	155	-	Peel-off pouch (100×5)	500	612-4542
5,8	40	3,4	0,25	155	-	Peel-off pouch (50×10)	500	612-4533
5,8	40	3,4	0,25	155	+	Peel-off pouch (50×10)	500	612-4523
5,8	40	3,4	0,25	155	+	20 per bag	500	612-4491
5,8	40	3,4	0,25	155	+	Individually wrapped	500	612-4497
7,0	50	3,0	1,0	153	-	Bulk	500	612-4472
7,0	50	3,0	1,0	153	+	Individually wrapped	500	612-4473
7,5	50	3,2	0,5	155	-	Bulk	500	612-4545
7,5	50	3,2	0,5	155	+	Peel-off pouch (100×5)	500	612-4536
7,5	50	3,2	0,5	155	+	Peel-off pouch (50×10)	500	612-4538
7,5	50	3,2	0,5	155	+	20 per bag	500	612-4502
7,5	50	3,2	0,5	155	+	Individually wrapped	500	612-4543



General purpose, large bulb

Non graduated, general purpose, large bulb

Capacity (ml)	Drop vol. (µl)	Suction volume (ml)	Length (mm)	Sterile	Packed	Pk	Cat. No.
8,0	50	4,6	152	+	20 per bag	400	612-4508
8,0	50	4,6	152	+	Individually wrapped	400	612-4509
9,3	56	4,8	137	-	Bulk	250	612-4511



Non graduated, narrow stem, standard

Capacity (ml)	Drop vol. (µl)	Suction volume (ml)	Length (mm)	Sterile	Packed	Pk	Cat. No.
4,6	45	3,3	155	-	Bulk	500	612-3609
4,6	45	3,3	155	+	Peel-off pouch (100×5)	500	612-4526
4,6	45	3,3	155	+	Peel-off pouch (50×10)	500	612-4527
4,6	45	3,3	155	+	20 per bag	500	612-4479
4,6	45	3,3	155	+	Individually wrapped	500	612-4481



Non graduated, long

Capacity (ml)	Drop vol. (µl)	Suction volume (ml)	Length (mm)	Sterile	Packed	Pk	Cat. No.
5,5	40	2,3	230	-	Bulk	500	612-3610
5,5	40	2,3	230	+	20 per bag	400	612-4499
5,5	40	2,3	230	+	Individually wrapped	400	612-4500



Non graduated, extra long

Capacity (ml)	Drop vol. (µl)	Suction volume (ml)	Length (mm)	Sterile	Packed	Pk	Cat. No.
23,0	50	7,3	300	-	Bulk	100	612-3627
23,0	50	7,3	300	+	20 per bag	100	612-4514
23,0	50	7,3	300	+	Individually wrapped	100	612-4515

Automatic straw pipette, SP100



Fixed volume, autoclavable

Air displacement pipette with two pre-calibrated steps allows subsequent pipetting of 1 and 0,1 mL of the same liquid. Ideal alternative to graduated glass pipettes when performing serial 1:10 dilutions in bacteriology.

- Smooth activation, excellent ergonomics; easy maintenance, cleaning and disinfection
- Two pre-calibrated fixed volumes – no setting required
- Both volumes calibrated independently
- Interchangeable PE nozzle protection filter
- Justip™ system for height adjustment of tip ejector



Capacity (ml)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
0,1 / 1	±2,0 / ±0,5	<2,5 / <0,4	1	710-1021
Accessories				
Description			Pk	Cat. No.
Straw pipettes, PP, 1 ml, 190 mm, sterile, 25/pack			1.000	612-1675

Repetitive pipette, Stepper



The Stepper in combination with the VWR dispenser tips is a proven system solution for the complete set of dispensing volumes from 1 to 5000 µl.

- Lightweight (105 g) - suitable for long dispensing series
- Reliable device with low maintenance requirements achieved by robust design and construction with a minimum of wearing parts
- Ergonomic design and positioning of the dosage button in the upper part of the device for single-handed volume selection, loading and dispensing
- Possibility to choose between the highest precision or a maximum of repetitions of the desired dosage volume, according to the requirements of the application
- Tested for function and precision after manufacture - serial number is only attributed if the requirements of DIN EN ISO 86551 are met



Ordering information: Supplied with an adapter for 25 ml and 50 ml dispenser tips.

Chart of dosage volumes per tip-size (when used in a system with VWR dispenser tips)

Dispenser tips classic in VWR Stepper					
Adjustment dial	1	2	3	4	5
No. of steps	48	23	15	11	8
0,05 ml	1 µl	2 µl	3 µl	4 µl	5 µl
0,50 ml	10 µl	20 µl	30 µl	40 µl	50 µl
1,25 ml	25 µl	50 µl	75 µl	100 µl	125 µl
2,50 ml	50 µl	100 µl	150 µl	200 µl	250 µl
5,00 ml	100 µl	200 µl	300 µl	400 µl	500 µl
12,50 ml	250 µl	500 µl	750 µl	1000 µl	1250 µl
25 ml	500 µl	1000 µl	1500 µl	2000 µl	2500 µl
50 ml	1000 µl	2000 µl	3000 µl	4000 µl	5000 µl
Dispenser tips universal in VWR Stepper					
Adjustment dial	1	2	3	4	5
No. of steps	48	23	15	11	8
0,10 ml	2 µl	4 µl	6 µl	8 µl	10 µl
0,20 ml	4 µl	8 µl	12 µl	16 µl	20 µl
0,50 ml	10 µl	20 µl	30 µl	40 µl	50 µl
100 ml	20 µl	40 µl	60 µl	80 µl	1,00 µl
2,50 ml	50 µl	100 µl	150 µl	200 µl	250 µl
5,00 ml	100 µl	200 µl	300 µl	400 µl	500 µl
10,00 ml	200 µl	400 µl	600 µl	800 µl	1000 µl
25,00 ml	500 µl	1000 µl	1500 µl	2000 µl	2500 µl
50,00 ml	1000 µl	2000 µl	3000 µl	4000 µl	5000 µl

Description	Pk	Cat. No.
VWR Stepper including adapter for 25 ml and 50 ml dispenser tips	1	613-0964
Starter Kit		
Description	Pk	Cat. No.
Stepper Starter Kit	1	613-1262

Dispenser tips, classic



- Compatible with: Ritter® ripette® and ripette® pro, Eppendorf® Multipette® 4780, Brand® HandyStep® and HandyStep®electronic, Minilab 100/101, EasyStep, DISTRIMAN®
- Eight different tip sizes from 0,05 to 50 ml
- Sterile tips guaranteed free of DNA, DNase, RNase, ATP and pyrogens



Capacity (ml)	Sterile	Packed	Pk	Cat. No.
2,50	+	Individual blister	100	613-1011
5,00	-	Bulk	100	613-1004
12,50	+	Individual blister	100	613-1013
25,00	-	Bulk	25	613-1006
25,00	+	Individual blister	25	613-1014
50,00	-	Bulk	25	613-1007
50,00	+	Individual blister	25	613-1015

Accessories			
Description	Pk	Cat. No.	
Adapters for 25 and 50 ml tips	3	613-1034	

Dispenser tips, universal



- Compatible with: Ritter® ripette®, Eppendorf® Multipette® plus and Multipette® 4780, Brand® HandyStep® and HandyStep®electronic, STEPMATE (when these are used with the Multipette® plus, the display does not work)
- Nine different tip sizes from 0,1 to 50 ml
- Sterile tips guaranteed free from DNA, DNase, RNase, ATP and pyrogens



Capacity (ml)	Sterile	Packed	Pk	Cat. No.
0,1	-	Bulk	100	613-1016
0,1	+	Individual blister	100	613-1025
0,2	-	Bulk	100	613-1017
0,2	+	Individual blister	100	613-1026
0,5	-	Bulk	100	613-1018
0,5	+	Individual blister	100	613-1027
1,0	-	Bulk	100	613-1019
1,0	+	Individual blister	100	613-1028
2,5	-	Bulk	100	613-1020
2,5	+	Individual blister	100	613-1029
5,0	-	Bulk	100	613-1021
5,0	+	Individual blister	100	613-1030
10,0	-	Bulk	100	613-1022
10,0	+	Individual blister	100	613-1031
25,0	-	Bulk	25	613-1023
25,0	+	Individual blister	25	613-1032
50,0	-	Bulk	25	613-1024
50,0	+	Individual blister	25	613-1033

Accessories			
Description	Pk	Cat. No.	
Adapters for 25 and 50 ml tips	3	613-1034	

Repetitive pipette, Varipette® 4720

Eppendorf



Pipette with continuously adjustable volume in increments of 10 µl, intended for accurate volumetric analysis up to 10 ml. It can be used for pipetting liquids with high vapour pressure or high viscosity. The Varipette® can be used with Varitip P or Varitip S tips for pipetting into different types of receptacles.

- Volume adjustable from 1 to 10 ml
- Selector button for displaying the set point volume on a digital dial
- Varitip P tips work on the principle of positive displacement, designed for pipetting volumes from 1 to 10 ml
- Varitip S consists of a volumetric syringe and a Maxitip tip, works on the air cushion principle, and is designed for pipetting volumes from 2,5 to 10 ml into tall and narrow-necked flasks

Pipette tip	Volume (ml)	Accuracy (%)	Imprecision (%)
Varitip S	2,5	±1,0	<0,2
	5	±0,4	<0,2
	10	±0,3	<0,2
Varitip P	1,0	±0,6	<0,2
	5	±0,5	<0,1
	10	±0,3	<0,1

Description	Pk	Cat. No.
Varipette® 4720	1	612-7310

Accessories		
Description	Pk	Cat. No.
Varitip P	100	612-7321
Barrels with pistons for Varitip S	30	612-7332
Maxitip for Varitip S	200	612-7333
Starter kit (100 Maxitips, 2 Maxitips G, 10 barrels with pistons, 10 valves)	1 KIT	612-7331

Single channel pipettes, mechanical



Linear stand

Fixed volume, fully autoclavable

- Ergonomically designed to fit large or small hands for extra comfort while working, for left or right handed operation
 - Slim tip mounting cone compatible with all tips
 - With stainless steel, movable and height adjustable tip ejector
 - Maintenance-free seals, polished plungers for superior precision
- Ordering information:** Supplied with a key for calibrating in the laboratory.



For pipette tips					
Capacity (µl)	Accuracy (%)	Imprecision (%)	(µl)	Pk	Cat. No.
5	±1,6	<1,0	10	1	613-0166
10	±1,0	<0,6	10	1	613-0167
20	±0,8	<0,4	200	1	613-0168
25	±0,8	<0,4	200	1	613-0169
50	±0,8	<0,4	200	1	613-0170
100	±0,8	<0,3	200	1	613-0171
200	±0,6	<0,3	200	1	613-0172
250	±0,6	<0,3	1000	1	613-0173
500	±0,5	<0,3	1000	1	613-0174
1000	±0,4	<0,3	1000	1	613-0175

Accessories		
Description	Pk	Cat. No.
Carousel stand for 6 pipettes	1	613-0085
Linear stand for 6 pipettes	1	613-0086
Shelf clip for 3 pipettes	1	613-0090

Single channel pipettes, mechanical, Ergonomic High Performance (EHP)



Linear stand

Variable volume, fully autoclavable

The new Ergonomic High Performance pipettes provide accuracy and precision you can rely on. The new upgraded ergonomic features deliver comfortable pipetting even during extensive periods of use.

- Significantly reduced plunger forces
- Effortless volume adjustment with volume lock
- Superior accuracy and precision for critical applications
- Tapered shaft and adjustable 'Easy Grip' ejector for universal tip fit
- Extended finger rest for convenient pipetting

Ordering information: Three Starter Kits available:

Starter Kit 1 includes 3 single channel pipettes (2 - 20 µl / 20 - 200 µl / 100 - 1000 µl)
Starter Kit 2 includes 3 single channel pipettes (0,1 - 2 µl / 0,5 - 10 µl / 10 - 100 µl)
Starter Kit 3 includes 3 single channel pipettes (0,5 - 10 µl / 10 - 100 µl / 100 - 1000 µl)

Capacity (µl)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
Without ejector				
0,2 - 2	±12,0 - ±1,5	<6,0 - <0,7	1	613-5268
0,5 - 10	±1,2 - ±0,6	<2,8 - <0,4	1	613-5269
2 - 20	±1,0 - ±0,6	<1,5 - <0,3	1	613-5270
5 - 50	±0,9 - ±0,6	<2,0 - <0,4	1	613-5271
10 - 100	±0,6 - ±0,5	<0,8 - <0,2	1	613-5272
20 - 200	±2,5 - ±0,5	<0,6 - <0,2	1	613-5273
50 - 250	±1,0 - ±0,6	<0,4 - <0,3	1	613-5274
100 - 1000	±0,9 - ±0,6	<0,4 - <0,15	1	613-5275
1000 - 5000	±0,6 - ±0,5	<0,25 - <0,15	1	613-5276
1000 - 10000	±2,5 - ±0,5	<0,6 - <0,2	1	613-5277
With ejector				
0,2 - 2	±12,0 - ±1,5	<6,0 - <0,7	1	613-5258
0,5 - 10	±1,2 - ±0,6	<2,8 - <0,4	1	613-5259
2 - 20	±1,0 - ±0,6	<1,5 - <0,3	1	613-5260
5 - 50	±0,9 - ±0,6	<2,0 - <0,4	1	613-5261
10 - 100	±0,6 - ±0,5	<0,8 - <0,2	1	613-5262
20 - 200	±2,5 - ±0,5	<0,6 - <0,2	1	613-5263
50 - 250	±1,0 - ±0,6	<0,4 - <0,3	1	613-5264
100 - 1000	±0,9 - ±0,6	<0,4 - <0,15	1	613-5265
1000 - 5000	±0,6 - ±0,5	<0,25 - <0,15	1	613-5266
1000 - 10000	±2,5 - ±0,5	<0,6 - <0,2	1	613-5267

Starter Kits		
Description	Pk	Cat. No.
Starter Kit 1 incl. 3 single channel pipettes (2 - 20 µl / 20 - 200 µl / 100 - 1000 µl)	1	613-5278
Starter Kit 2 incl. 3 single channel pipettes (0,1 - 2 µl / 0,5 - 10 µl / 10 - 100 µl)	1	613-5279
Starter Kit 3 incl. 3 single channel pipettes (0,5 - 10 µl / 10 - 100 µl / 100 - 1000 µl)	1	613-5280

Accessories		
Description	Pk	Cat. No.
Carousel stand for 6 pipettes	1	613-0085
Linear stand for 6 pipettes	1	613-0086
Shelf clip for 3 pipettes	1	613-0090

Single channel pipettes, mechanical, Transferpette® S Brand



613-3472



Fixed or variable volume, fully autoclavable

Ideal for laboratory applications requiring the highest standards of precision. The 0,1 - 1 µl Transferpette® S ensures the highest degree of accuracy for molecular biology applications, especially when pipetting enzymes.

The volume adjustment knob on the variable volume Transferpette® S is simple to use and can be moved easily even when wearing gloves. The Easy Calibration feature was developed as part of the programme for monitoring control instrumentation for compliance with ISO 9000 and GLP and enables the device to be adjusted in a few seconds, without tools, to meet the user's specific needs.

- The pipetting button is located centrally so that the piston moves evenly and smoothly, pipettes have a separate ejection button (piston and ejector are both corrosion resistant)
- Colour coding on the pipette shaft clearly indicates the matching tip
- Single handed operation for both right- and left-handers with easy to read 4-digit volume display for unsurpassed accuracy
- Slim pipette shaft allows pipetting into containers with narrow openings
- Ergonomically designed finger rest for a firm grip, reducing fatigue even during prolonged pipetting sessions

Fixed volume					
Capacity (µl)	Accuracy (%)	Imprecision (%)	For pipette tips (µl)	Pk	Cat. No.
10	±1	<0,5	0,1 - 20 / 0,5 - 20 / 0,5 - 10*	1	613-3456
20	±0,8	<0,4	2 - 200 / 5 - 300 / 2 - 20* / 5 - 100*	1	613-3457
25	±0,8	<0,4	2 - 200 / 5 - 300 / 5 - 100*	1	613-3458
50	±0,8	<0,4	2 - 200 / 5 - 300 / 5 - 100*	1	613-3459
100	±0,6	<0,2	2 - 200 / 5 - 300 / 5 - 100*	1	613-3460
200	±0,6	<0,2	2 - 200 / 5 - 300 / 5 - 200*	1	613-3461
500	±0,6	<0,2	50 - 1000 / 50 - 1250 / 50 - 1000*	1	613-3462
1000	±0,6	<0,2	50 - 1000 / 50 - 1250 / 50 - 1000*	1	613-3463
Variable volume					
Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	For pipette tips (µl)	Pk Cat. No.
0,1 - 1	0,001	±2	<1,2	0,1 - 20 / 0,1 - 1*	1 613-3464
0,5 - 10	0,01	±1	<0,5	0,1 - 20 / 0,5 - 20 / 0,1 - 1* / 0,5 - 10*	1 613-3465
2 - 20	0,02	±0,8	<0,4	2 - 200 / 5 - 300 / 2 - 20* / 5 - 100*	1 613-3466
10 - 100	0,10	±0,6	<0,2	2 - 200 / 5 - 300 / 2 - 20* / 5 - 100*	1 613-3467
20 - 200	0,20	±0,6	<0,2	2 - 200 / 5 - 300 / 2 - 20* / 5 - 100* / 5 - 200*	1 613-3468
100 - 1000	1,00	±0,6	<0,2	50 - 1000 / 50 - 1250 / 50 - 1000*	1 613-3469
500 - 5000	5,00	±0,6	<0,2	500 - 5000	1 613-3470
1000 - 10000	10,0	±0,6	<0,2	1000 - 10000	1 613-3471

* Filter tips

Starter Kits (3 Transferpette® S Digital, 3 filled Tip-Box N, 3 rack mounts)		
Description	Pk	Cat. No.
Micro (Transferpette® S Digital 0,1 - 1/0,5 - 10/10 - 100)	1	613-3472
Standard (Transferpette® S Digital 0,5 - 10/10 - 100/100 - 1000)	1	613-3478
Midi (Transferpette® S Digital 2 - 20/20 - 200/100 - 1000)	1	613-3473
Macro (Transferpette® S Digital 100 - 1000/500 - 5000/1000 - 10000)	1	613-3474
Accessories		
Description	Pk	Cat. No.
Bench top rack for 6 Transferpette®/Transferpette® S	1	613-3475
Shelf/rack mount for Transferpette® S -8/-12 single instrument	1	613-3476
Filter for Transferpette® S 1-10 ml	25	613-1685

Single channel pipettes, electronic, eLINE® Biohit



Variable volume, autoclavable (lower parts only)

eLINE® pipettes offer new levels of analytical performance and ergonomic innovation in a genuinely user friendly package. Two types of filters are offered: Safe-Cone standard filter and Safe-Cone Plus filter. It is recommended to use the Standard filter for general applications and the Plus filter for more demanding applications, such as cell culture, bacterial and viral work, and molecular biology.

- Easy to read display and simple to operate keyboard; autoclavable lower parts
- Fully electronic operation (including unique electronic tip ejection); nine speeds for aspiration and dispensing
- Comprehensive range of pipetting protocols with easy programming (pipetting, reverse pipetting, pipetting with mixing, pipetting with cycle counter, manual pipetting, multiple dispensing, diluting, diluting with mixing, sequential dispensing, multi aspirating, multiple dispensing, automatic multiple dispensing)
- Memory settings to store up to six user defined pipetting protocols for easy recalls

Ordering information: Supplied with universal AC adapter. Charging stand available separately.



Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	For pipette tips (µl)	With	Pk	Cat. No.
100 - 5000	10,00	±0,50	<0,15	5000	Safe-Cone filters 613-4069 and 613-4074	1	613-4105

Accessories							
Description						Pk	Cat. No.
Safe-Cone filters, Plus, Ø 3,15 mm						50	613-0693
Safe-Cone filters, Plus, Ø 5,33 mm						50	613-4074
Safe-Cone filters, Standard, Ø 3,15 mm						50	613-4070
Safe-Cone filters, Standard, Ø 5,33 mm						50	613-4069

Pipette tips



All the tips are made of high quality 100% pure virgin medical grade PP. Made in the highest quality moulds, these tips can be used whenever the work demands a higher standard. Sterile products are tested for endotoxin (pyrogen) contamination and certified to USP standards. Resins are pre-tested for metal contamination. Certificates are on file by lot number for all test results.

- A wider seal assures that tips will seal easily and consistently without leaking, on old as well as new pipettes
- Guaranteed free of detectable DNA, DNase/RNase, endotoxins and heavy metals
- Autoclavable



Bulk						
	Type	Capacity (µl)	Compatibility	Pk	Cat. No.	
	UltraFine™, extended	0,1 - 10	A	1.000	613-0259	
	UltraFine™, graduated, siliconised	0,1 - 10	A	1.000	613-0276	
	UltraFine™, graduated	0,1 - 10	A	1.000	613-0364	
	Bevel Point™, graduated	0,5 - 10	B	1.000	613-0254	
	UltraFine™	0,5 - 20	Q	1.000	613-0578	
	Graduated	0,1 - 30	A	1.000	613-0636	
	Bevel Point™	1 - 100	D	1.000	613-0252	
	Bevel Point™, graduated	1 - 200	C	10.000	525-0144	
	Standard	1 - 200	C	1.000	613-0287	
	Standard (yellow)	1 - 200	C	1.000	613-0246	
	Bevel Point™	1 - 200	C	1.000	613-0239	
	Bevel Point™	1 - 200	C	10.000	613-0240	
	Bevel Point™, graduated	1 - 200	C	1.000	613-0298	
	Bevel Point™, siliconised	1 - 200	C	1.000	613-0277	
	UltraFine™, graduated	1 - 200	R	1.000	613-0581	
	UltraFine™, FlexTop™, extended	1 - 200	C	1.000	732-0500	
	UltraFine™, FlexTop™, graduated	1 - 200	C	1.000	732-0504	
	Bevel Point™, wide orifice	1 - 250	E	1.000	736-0204	
	Low Binding, wide orifice	1 - 250	E	1.000	613-0370	
	UltraFine™	1 - 250	F	1.000	613-0892	
	UltraFine™, Low Binding	1 - 250	F	1.000	613-0373	
	Bevel Point™	1 - 300	G	1.000	613-0265	
	Bevel Point™, Low Binding	1 - 300	G	1.000	613-0380	
	UltraFine™, FlexTop™, graduated	1 - 300	G	1.000	613-0331	
	Bevel Point™	100 - 1000	L	1.000	613-0340	
	Bevel Point™, graduated	100 - 1000	L	1.000	613-0343	
	UltraFine™	100 - 1000	S	1.000	613-0584	
	UltraFine™, FlexTop™, extended	100 - 1250	I	1.000	613-0272	
	UltraFine™, Low Binding	100 - 1250	I	1.000	613-0377	
	Wide orifice	100 - 1250	I	1.000	613-0749	
	Macro	1000 - 5000	O	250	613-0830	
	Macro, graduated (Gilson Pipetman)	1000 - 5000	O	250	613-0338	
	Macro, graduated (Biohit/Eppendorf)	1000 - 5000	O	250	613-0339	
	Standard	5000 - 10000	Y	250	613-0831	

Racked					
	Type	Capacity (µl)	Compatibility	Pk	Cat. No.
	UltraFine™, extended (10×96)	0,1 - 10	A	960	613-0260
	UltraFine™, graduated (12×96)	0,1 - 10	A	1.152	613-0334
	UltraFine™, graduated, siliconised (12×96)	0,1 - 10	A	1.152	613-0336
	Bevel Point™, graduated (10×96)	0,5 - 10	B	960	613-0255
	UltraFine™ (10×96)	0,5 - 20	Q	960	613-0576
	Graduated (10×96)	0,1 - 30	A	960	613-0637
	UltraFine™ (10x384)	1 - 50	A	3.840	732-0499
	Bevel Point™ (10×96)	1 - 100	D	960	613-0253
	Bevel Point™ (5×192)	1 - 100	D	960	613-0251
	Standard (10×96)	1 - 200	C	960	613-0288
	Standard (10×96, yellow)	1 - 200	C	960	613-0247
	Bevel Point™ (10×96)	1 - 200	C	960	613-0241
	Bevel Point™ (5×192)	1 - 200	C	960	613-0369
	Bevel Point™ (5×192, yellow)	1 - 200	C	960	613-0237
	Bevel Point™, Low Binding (10×96)	1 - 200	C	960	613-0285
	Bevel Point™, siliconised (10×96)	1 - 200	C	960	613-0278
	Bevel Point™, graduated (10×96)	1 - 200	C	960	613-0299
	Bevel Point™, graduated (5×192)	1 - 200	C	960	613-0296
	UltraFine™, graduated (10×96)	1 - 200	R	960	613-0579
	UltraFine™, FlexTop™, extended (6×96)	1 - 200	C	576	732-0501
	UltraFine™, FlexTop™, graduated (10×96)	1 - 200	C	960	732-0505
	Bevel Point™, wide orifice (10×96)	1 - 250	E	960	736-0205
	Low Binding, wide orifice (10×96)	1 - 250	E	960	613-0371
	UltraFine™ (10×96)	1 - 250	F	960	613-0304
	UltraFine™, Low Binding (10×96)	1 - 250	F	960	613-0374
	Bevel Point™ (10×96)	1 - 300	G	960	613-0266
	Bevel Point™ (5×192)	1 - 300	G	960	613-0357
	Bevel Point™, Low Binding (10×96)	1 - 300	G	960	613-0381
	UltraFine™, FlexTop™, graduated (6×96)	1 - 300	G	576	613-0332
	Bevel Point™ (6×96)	100 - 1000	L	576	613-0341
	Bevel Point™, graduated (5×96)	100 - 1000	L	480	613-0366
	Bevel Point™, graduated (6×96)	100 - 1000	L	576	613-0344
	UltraFine™ (6×96)	100 - 1000	S	576	613-0582
	UltraFine™, FlexTop™, extended (6×96)	100 - 1250	I	576	613-0273
	UltraFine™, Low Binding (6×96)	100 - 1250	I	576	613-0378
	Wide orifice (6×96)	100 - 1250	I	576	613-0750
Racked, sterile					
	Type	Capacity (µl)	Compatibility	Pk	Cat. No.
	UltraFine™, extended (10×96)	0,1 - 10	A	960	613-0261
	UltraFine™, graduated (12×96)	0,1 - 10	A	1.152	613-0335
	UltraFine™, graduated, siliconised (12×96)	0,1 - 10	A	1.152	613-0337
	Bevel Point™, graduated (10×96)	0,5 - 10	B	960	613-0256
	UltraFine™ (10×96)	0,5 - 20	Q	960	613-0577
	Graduated (10×96)	0,1 - 30	A	960	613-0638
	UltraFine™ (10x384)	1 - 50	A	3.840	732-0557
	Bevel Point™ (10×96)	1 - 100	D	960	613-0352
	Bevel Point™ (5×192)	1 - 100	D	960	613-0353
	Standard (10×96)	1 - 200	C	960	613-0360
	Standard (10×96, yellow)	1 - 200	C	960	613-0248
	Bevel Point™ (10×96)	1 - 200	C	960	613-0242
	Bevel Point™ (5×192)	1 - 200	C	960	613-0238
	Bevel Point™, graduated (10×96)	1 - 200	C	960	613-0300
	Bevel Point™, graduated (5×192)	1 - 200	C	960	613-0297
	Bevel Point™, Low Binding (10×96)	1 - 200	C	960	613-0286
	Bevel Point™, siliconised (10×96)	1 - 200	C	960	613-0279
	UltraFine™, graduated (10×96)	1 - 200	R	960	613-0580
	UltraFine™, FlexTop™, extended (6×96)	1 - 200	C	576	732-0502
	UltraFine™, FlexTop™, graduated (10×96)	1 - 200	C	960	732-0506
	Bevel Point™, wide orifice (10×96)	1 - 250	E	960	736-0206
	Low Binding, wide orifice (10×96)	1 - 250	E	960	613-0372
	UltraFine™ (10×96)	1 - 250	F	960	613-0362
	UltraFine™, Low Binding (10×96)	1 - 250	F	960	613-0375
	Bevel Point™ (10×96)	1 - 300	G	960	613-0267
	Bevel Point™ (5×192)	1 - 300	G	960	613-0358
	Bevel Point™, Low Binding (10×96)	1 - 300	G	960	613-0382
	UltraFine™, FlexTop™, graduated (6×96)	1 - 300	G	576	613-0333
	Bevel Point™ (6×96)	100 - 1000	L	576	613-0342
	Bevel Point™, graduated (6×96)	100 - 1000	L	576	613-0345
	UltraFine™ (6×96)	100 - 1000	S	576	613-0583
	UltraFine™, FlexTop™, extended (6×96)	100 - 1250	I	576	613-0274
	UltraFine™, Low Binding (6×96)	100 - 1250	I	576	613-0379
	Wide orifice (6×96)	100 - 1250	I	576	613-0751

Refill system

Type	Capacity (µl)	Compatibility	Pk	Cat. No.
UltraFine™, graduated	0,1 - 10	A	1.152	613-0262
UltraFine™, graduated, sterile	0,1 - 10	A	1.152	613-0263
Bevel Point™	1 - 100	D	960	613-0249
Bevel Point™, sterile	1 - 100	D	960	613-0354
Bevel Point™	1 - 200	C	960	613-0231
Bevel Point™, sterile	1 - 200	C	960	613-0233
Bevel Point™, graduated	1 - 200	C	960	613-0290
Bevel Point™, graduated, sterile	1 - 200	C	960	613-0292
Bevel Point™, wide orifice	1 - 250	E	960	613-0229
UltraFine™	1 - 250	F	960	613-0363

Stack rack

Type	Capacity (µl)	Compatibility	Pk	Cat. No.
Bevel Point™ (5×192)	1 - 100	D	960	613-0250
Bevel Point™ (10×96)	1 - 200	C	960	613-0368
Bevel Point™ (10×96, yellow)	1 - 200	C	960	613-0243
Bevel Point™ (5×192)	1 - 200	C	960	613-0235
Bevel Point™, graduated (10×96)	1 - 200	C	960	613-0301
Bevel Point™, graduated (5×192)	1 - 200	C	960	613-0294



Stack rack refill

Type	Capacity (µl)	Compatibility	Pk	Cat. No.
Bevel Point™ (10×96)	1 - 200	C	960	613-0244
Bevel Point™ (5×192)	1 - 200	C	960	613-0236
Bevel Point™, graduated (10×96)	1 - 200	C	960	613-0302
Bevel Point™, graduated (5×192)	1 - 200	C	960	613-0295
Bevel Point™, graduated, sterile (160×96)	1 - 200	C	15.360	613-0350



Pak Rak™ refill

Type	Capacity (µl)	Compatibility	Pk	Cat. No.
Standard	1 - 200	C	960	613-0361
Standard (yellow)	1 - 200	C	960	613-0245
Bevel Point™, graduated (Starter-Kit, 10×96)	1 - 200	C	1	613-0320
UltraFine™, Low Binding	100 - 1250	I	576	613-0376
Wide orifice	100 - 1250	I	576	613-0748

Pak Rak™ Express refill

Type	Capacity (µl)	Compatibility	Pk	Cat. No.
UltraFine™, extended	0,1 - 10	A	1.344	613-0258
UltraFine™	0,5 - 20	Q	1.056	613-0632
Graduated	0,1 - 30	A	1.344	613-0635
Bevel Point™	1 - 100	D	960	613-0355
Bevel Point™, sterile	1 - 100	D	960	613-0356
Bevel Point™	1 - 200	C	960	613-0232
Bevel Point™ (sterile)	1 - 200	C	960	613-0234
Bevel Point™, graduated	1 - 200	C	960	613-0291
Bevel Point™, graduated, sterile	1 - 200	C	960	613-0293
Bevel Point™, Low Binding	1 - 200	C	960	613-0284
UltraFine™, graduated	1 - 200	R	960	613-0633
UltraFine™, FlexTop™, graduated	1 - 200	C	960	732-0503
UltraFine™, FlexTop™, graduated	1 - 300	G	768	613-0631
UltraFine™	100 - 1000	S	576	613-0634
UltraFine™, FlexTop™, extended	100 - 1250	I	576	613-0271



Individually wrapped, sterile

Type	Capacity (µl)	Compatibility	Pk	Cat. No.
Bevel Point™	1 - 200	C	200	613-0230
Bevel Point™, graduated	1 - 200	C	200	613-0289
Bevel Point™	1 - 300	G	200	613-0264
Bevel Point™, graduated	100 - 1000	L	200	613-0359
UltraFine™, FlexTop™, extended	100 - 1250	I	200	613-0367



Pipette tips, refill, Next Generation



Tips made from pure resins, packaging made from renewable materials

The Next Generation pipette tip refill system is a revolution in pipette tip refills. It goes far beyond other reload systems to bring a complete refilling solution to the lab. With a simple lift, place and snap, the user can refill VWR and other brands of pipette tip racks with 17 different styles of tips.

Far beyond simple recycle coding, the Next Generation is a complete system designed with a low carbon footprint that includes the first ever use of bio-plastic (non petroleum) compostable resin in pipette tip refills. Next Generation's small footprint extends to the package, with a reclosable box that helps maximise storage space in crowded labs.

- Easy to use refill system - new pipette tip racks, inserts and transfer cover prevent tip wobbling during refill and keeps tips clean
- 95% renewable materials - compostable tip base from organic non petroleum resin, carton made from 100% recycled fibres, soy-based vegetable ink
- Certified DNA-/RNase-/DNase-free

Packaging: Compact, reclosable packaging with reduced overall weight.

Type	Capacity (µl)	Compatibility	Sterile	Pk	Cat. No.
Standard	0,1 - 10	A	+	1.248	613-1647
UltraFine™	0,1 - 10	A	-	1.248	613-1646
Low Binding	0,1 - 10	A	-	1.248	613-1644
Low Binding	0,1 - 10	A	+	1.248	613-1645
Extended, micro	0,1 - 10	A	-	1.344	613-0735
Extended, micro	0,1 - 10	A	+	1.344	613-0736
Rainin®LTS™ style	0,2 - 20	O	-	1.056	613-0721
Rainin®LTS™ style	0,2 - 20	O	+	1.056	613-0722
Eppendorf® style, yellow	1 - 100	E	-	960	613-0734
Yellow	1 - 200	B	-	960	613-0732
Yellow	1 - 200	B	+	960	613-0733
Standard	1 - 200	C	-	960	613-0740
Graduated	1 - 200	D	-	960	613-0742
Graduated	1 - 200	D	+	960	613-0743
Ultrafine™	1 - 200	I	-	960	613-0725
Ultrafine™	1 - 200	I	+	960	613-0726
Low Binding	1 - 200	L	-	960	613-0741
Wide orifice	1 - 200	G	-	960	613-0731
Ultrafine™	1 - 250	F	-	960	613-0744
Low Binding	1 - 250	F	-	960	613-0745
Rainin®LTS™ style	0,5 - 250	R	-	960	613-0727
Rainin®LTS™ style	0,5 - 250	R	+	960	613-0728
Ultrafine™	1 - 300	G	-	576	613-0723
Ultrafine™	1 - 300	G	+	576	613-0724
Rainin®LTS™ style	100 - 1000	Q	-	480	613-0729
Rainin®LTS™ style	100 - 1000	Q	+	480	613-0730
Wide orifice	100 - 1250	H	-	480	613-0737
Ultrafine™	100 - 1250	I	-	480	613-0738
Ultrafine™	100 - 1250	I	+	480	613-0739
Low Binding	100 - 1250	I	-	480	613-0746
Low Binding	100 - 1250	I	+	480	613-0747

Accessories		
Description	Pk	Cat. No.
Refillable anti-wobble tip rack (for mid-size tips)	10	613-1592

Refillable boxes/racks for VWR Pak Rak™/Pak Rak™ Plus loaders



Hinged, refillable, autoclavable boxes/racks for pipette tip refills. Used with Pak Rak™ and Pak Rak™ Plus loaders. Boxes/racks for 100-1250 µl tips are only suitable for Pak Rak™ Plus Loaders.

- Strong enough to be autoclaved many times
- Separate insert includes a bevelled top and extra sturdy surface for multichannel pipetting
- Vented sides ensure effective tip sterilisation during autoclaving

Description	Pk	Cat. No.
Boxes/Racks for 10 µl tips, empty	12	613-0383
Boxes/Racks for 1-250 µl tips, empty	10	613-0307
Boxes/Racks for 100-1250 µl tips, empty	6	613-0306

Filter tips, Next Generation refill



Tips made from pure resins with PE filter, packaging made from renewable materials

ZAP™ Premier™ aerosol filter tips, with their patented filters made from high molecular weight polyethylene, offer complete protection from sample carry over. The filter pores have an average size of 10 µm, so even radionucleotides are captured before reaching the pipette barrel. The tips are ideal for PCR and DNA manipulation.

The Next Generation is a complete system designed with a Low Carbon footprint that includes the first ever use of bio-plastic (non petroleum) compostable resin in pipette tip refills. Next Generation's small footprint extends to the package, with a reclosable box that helps maximise storage space in crowded labs.

- Easy to use refill system - new pipette tip racks, inserts and transfer cover preventing tip wobbling during refill and keeping tips clean
- 95% renewable materials - compostable tip base from organic non petroleum resin, carton made from 100% recycled fibres, soy-based vegetable ink
- Certified DNA-/RNase-/DNase-free

Ordering information: Compact, reclosable packaging with reduced overall weight.

Type	Capacity (µl)	Compatibility	Packed	Pk	Cat. No.
Extended, Tubegard™ ring	0,1 - 10	AF1	10 racks, 96 each	960	732-1481
UltraFine™, graduated	0,1 - 10	AF1	10 racks, 96 each	960	732-1476
Rainin LTS®	1 - 20	AF13	10 racks, 96 each	960	732-1483
Bevel Point™	1 - 40	AF3	10 racks, 96 each	960	732-1477
Bevel Point™, graduated	1 - 100	AF19	10 racks, 96 each	960	732-1482
UltraFine™	1 - 200	AF7	10 racks, 96 each	960	732-1479
Rainin LTS®	1 - 200	AF11	10 racks, 96 each	960	732-1484
Bevel Point™	1 - 300	AF8	10 racks, 96 each	960	732-1478
UltraFine™	100 - 1000	AF9	8 racks, 96 each	768	732-1480
Rainin LTS®	100 - 1000	AF12	8 racks, 96 each	768	732-1485

Colony counter, eCount™



All in one eCount™ combines a multi-function electronic counter with a Sharpie® pen for marking Petri dishes to prevent missing or double-counting colonies. Light, ergonomic body is balanced for easy manipulation. Ideal for rapid, accurate counts. Press the lock key to write with Sharpie® pen without counting. Sharpie® pen provides highly visible marks on both plastic and glass dishes. Counter accepts both fine and extra fine point Sharpie® pens. Easily change colours for separate counts. With 3 V CR 1220 lithium battery.

- Five digit display
- Touch controls for multiple counts, count up to 32 different zones
- Counter automatically beeps with each count—or select the LED flash mode for a visual alert of each count
- Working temperature 0 to + 50 °C

Delivery information: Includes one fine-point Sharpie® pen and weighted stand.

Description	Pk	Cat. No.
eCount™	1	710-0596
Replacement pen for eCount™	12	710-0918

Colony counter, Star-Count STC 1000



The colony counter Star-Count STC 1000 is designed for rapid and accurate counting of bacterial colonies using the latest technologies. Adapters to use 50, 60 and 90 mm dishes (90 mm adapter included, others are optional). LED lightning and contrast can be dimmed. There is a choice between single mode (count on one Petri dish) and multiple mode (count up to 20 dishes and the average is continuously calculated and displayed).The instrument has a pressure-sensitive dish holder so it is useable with any kind of marker, pen or probe. Optionally external counting marker is connectable also. With the communication package the counted values are storable with date and time. Additionally there is the possibility to add sample IDs or barcodes (reader is an option) to the counted value.

- Multifunction graphic display shows the number of colonies (up to 999), average, time and date
- Values are saved on a memory card (option)
- Audible and visible confirmation of each count
- LED back light and sidelight illumination
- RS232 for connection to a printer/USB for a connection to a computer

Description	Pk	Cat. No.
Colony counter STC 1000, supplied with magnifying glass, standard marker, Wolffhügel grid, adapter for 90 mm Petri dishes, cable with universal plug	1	710-0710

Accessories		
Description	Pk	Cat. No.
Adapter for Petri dishes Ø 50 mm	1	710-0722
Adapter for Petri dishes Ø 60 mm	1	710-0723
Adapter for Petri dishes Ø 80 mm	1	710-0724
Adapter for Petri dishes Ø 90 mm	1	710-0721
Adapter set for Petri dishes Ø 50/60/80/90 mm	1	710-0725
Communication kit with software and USB cable for data management	1	710-0850
External marker with waterproof pen and cable	1	710-0717
Fuse	1	710-0720
Magnifier glass 2x	1	710-0713
Plate, glass	1	710-0719
Printer	1	710-0711
Printer cable	1	710-0712
Waterproof pen	1	710-0716
Wolffhuegel scale plate	1	710-0718

Automatic agar preparator and dispenser, Agarster ECO Mini



This bench top, convenient media preparator for GLP compliance is used for preparing, sterilising and holding up to 3 litres of agar at dispensing temperature. GLP requirements recommend fresh culture for better selectivity, growth and morphological characteristics of colonies. This automatic media preparator is easy to use and to maintain, and allows production planning throughout the day/week. The need for glassware and hot vessel/container transfer is eliminated. With microprocessor controlled programmable process cycles and heat generated by reinforced element, each lot can be monitored for quality control. The system includes an airtight lid equipped with steam safety valve, inner chamber pressure gauge, agar dispensing connector, thermocouple, screw cap opening for adding heat-sensitive substances, and lifting handle. The system also has a water cooling coil for automatically cooling the agar temperature to dispensing temperature after sterilisation. Maximum sterilisation temperature: 125 °C.

- Compact structure, stainless steel housing (AISI 304) and internal chamber
- User instruction printed on the panel
- Electromagnetic agitation system
- Control panel with digital display of sterilisation time and set/actual temperature
- Strict control of sterilisation parameters for production reproducibility

Weight (kg)	25			
W×D×H (mm)	440×440×530			
Description				
Agarster Eco mini media preparator, complete with electrical cable and plug (220 V/ 50 Hz/ 1600 W)			Pk	Cat. No.
			1	710-0865
"Cream Four" stainless steel addition basket			1	710-0885

Media preparator, Steragar



Nutritional components have a better nutritional value for microorganisms immediately after preparation. The automation allows a precise control of the temperature and time for media preparation as suggested by international standards. The external and internal chamber are made of AISI 304 stainless steel. The insulated ABS lid is equipped with screw cap opening for adding heat sensitive substances, steam safety valve, chamber pressure manometer, agar dispensing connector and thermoprobe. The automatic chocolate-agar cycle is standardised. A programmable microprocessor card guarantees a good management of the sterilisation and dispensing process.

- Water jacket system for a rapid and linear cooling
- Electromagnetic agitation system gives maximum temperature uniformity
- Control panel with digital display for a continuous monitoring of the temperature and the production cycle
- Closure with "Quick Tilt" system for easier opening
- Reinforced resistors
- Mains water supply connection

Delivery information: Steragar will be delivered with printer, internal basket and "Aspir" nozzle for culture media aspiration.

Weight (kg)	55		
W×D×H (mm)	600×500×610		
Description		Pk	Cat. No.
Aspir aspiration nozzle for Steragar		1	710-0899
Steragar up to 10 l		1	710-0864
Steragar up to 16 l		1	710-0863

Petri dishes



Transparent PS

All dishes are manufactured under strict aseptic conditions using on line production and packaging. Sterile dishes are gamma irradiated (10 kGy) with proof of sterility and batch number displayed on the box.

- Excellent optical quality
- Stringent quality control procedures
- Compliant with automatic plate pourers

Certificates on request

Version	Ø (mm)	Height (mm)	Pk	Cat. No.
Sterile				
Without vents	55	14,2	1.620	391-0866
With triple vents	55	14,2	1.620	391-0865
With triple vents, 2 compartments	90	14	825	391-1514
With 4 vents (for agrifood industry)	90	14	825	391-1546
Without vents, double outer bag	90	14,2	825	391-0893
With triple vents	90	14,2	600	391-0875
With triple vents, double outer bag	90	14,2	825	391-0891
High, without vents, double outer bag	90	16,2	700	391-1519
High, with one vent, double outer bag	90	16,2	700	391-1518
High, with triple vents, double outer bag	90	16,2	700	391-1517
Without vents	140	20,6	176	391-1501
With triple vents	140	20,6	176	391-1500
Aseptic				
Without vents	55	14,2	1.620	391-0868
With six vents	55	14,2	1.620	391-0895
Contact dish, double outer bag	65	14,5	720	391-1504
Without vents	90	14,2	600	391-0880
Without vents, double outer bag	90	14,2	825	391-0894
With triple vents	90	14,2	600	391-0878
With triple vents, double outer bag	90	14,2	825	391-0892
High, without vents, double outer bag	90	16,2	700	391-1522
High, with one vent, double outer bag	90	16,2	700	391-1521
High, with triple vents, double outer bag	90	16,2	700	391-1520
Without vents	140	20,6	176	391-1503
With triple vents	140	20,6	176	391-1502

Petri dishes, Star™ Dish

Phoenix



90×15 mm, 4-section



140×15 mm



55×15 mm



90×20 mm



Crystal clear, medical grade PS

Ideal for colony counting.

- Environmentally friendly manufacturing process uses reduced amounts of plastic
- Sterile and particulate-free

90×15 mm dishes

The recessed lid on the nesting ALPINE dish offers excellent stacking stability and saves space. It works with most models of media pouring equipment. The semi-nesting ALPINE dish is most suitable for use with high-speed media pouring machines. The recess on the lid has a smoother bevelled angle allowing the dish to slide easily during automated pouring.

- Vents on the underside of the lid prevent condensation from developing and dripping onto the culture
- Extremely flat bottom allows a reduction in the amount of media required
- Cross ribs on the base make the dish resilient and resistant to warpage when media is poured at a high temperature
- Excellent for performing colony counts, since ribs provide a useful border for making quadrants

Version	Ø (mm)	Height (mm)	Packed	Pk	Cat. No.
With 4 vents	90	15	25/sleeve	600	710-3515
With 4 vents, larger lip	90	15	25/sleeve	600	710-3517
Without vents	90	15	25/sleeve	600	710-3516
Nesting ALPINE, stacking with 4 vents	90	15	25/sleeve	600	710-3505
Nesting ALPINE, stacking without vents	90	15	25/sleeve	600	710-3506
Semi-nesting ALPINE, semi-stacking with 4 vents	90	15	25/sleeve	600	710-3507
Semi-nesting ALPINE, semi-stacking without vents	90	15	25/sleeve	600	710-3508

Space and media saving dishes

Specifically designed for commercial media pourers, the 90×13 mm dish offers several advantages, including saving on the amount of media used per plate, longer shelf life and elimination of the problem with drying and shrinking media. Its 13 mm height saves storage space in the refrigerator and incubator for the end user. Due to its smaller diameter, the 85×15 mm dish is perfect for users who want to save on the amount of media poured, as well as on storage space in the refrigerator and incubator.

Version	Ø (mm)	Height (mm)	Packed	Pk	Cat. No.
Space and media saver, semi-stacking with 3 vents	85	15	25/sleeve	600	710-3511
Space and media saver, semi-stacking with 4 vents	90	13	25/sleeve	600	710-3514

90×15 mm sectional dishes

For simultaneous differential studies of organisms or media in a common environment. Overall costs are reduced by minimising use of dishes, media and space. Versions with 3 or 4 sections have numbered compartments for easy identification.

Version	Ø (mm)	Height (mm)	Packed	Pk	Cat. No.
With 2 compartments, semi-stacking with 4 vents	90	15	25/sleeve	600	710-3509
With 3 compartments, semi-stacking with 4 vents	90	15	25/sleeve	600	710-3518
With 4 compartments, semi-stacking with 4 vents	90	15	25/sleeve	600	710-3519

140×15 mm dishes

Ideal for antibiotic susceptibility testing, these dishes accommodates 2 to 3 membrane filters in a single dish. The dish is large enough for bioburden determination and sterility testing of medical devices.

Version	Ø (mm)	Height (mm)	Packed	Pk	Cat. No.
Semi-stacking with 6 vents	140	15	20/sleeve	120	710-3521
Semi-stacking without vents	140	15	20/sleeve	120	710-0599

55×15 mm dishes

This dish saves space in refrigerators and incubators, and is ideal when small quantities of media are used. It accommodates single membrane filters for water and pharmaceutical testing.

Version	Ø (mm)	Height (mm)	Packed	Pk	Cat. No.
Semi-stacking with 3 vents	55	15	20/sleeve	600	710-3513
Semi-stacking without vents	55	15	20/sleeve	600	710-3512

Deep dishes

Specifically designed to accommodate more media, these dishes are excellent for mycology, histology and pathology labs, as well as for seed germination. Particularly good if longer culturing periods are required.

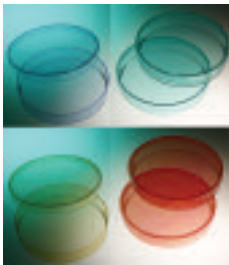
Version	Ø (mm)	Height (mm)	Packed	Pk	Cat. No.
Semi-stacking without vents	90	20	16/sleeve	384	710-3510
Semi-stacking with 6 vents	140	20	15/sleeve	90	710-0600
Semi-stacking with 6 vents	140	25	12/sleeve	72	710-0602
Semi-stacking without vents	140	20	15/sleeve	90	710-0601
Semi-stacking without vents	140	25	12/sleeve	72	710-0603

Speciality dishes

The AQUA PLATE is ideal for membrane filtration techniques. It accommodates a 47 mm round membrane filter, used for a variety of water testing techniques, and is best for field sample collection. The tight fitting lid can be easily sealed with tape. The 40×12,5 mm dish is ideal when only a very small sample is required. It is also suitable for use with small filters and in pharmaceutical analysis. The ALPINE FULL SIZE dish is ideal when a larger surface is required for culture and for accommodating antibiotic sensitivity discs.

Version	Ø (mm)	Height (mm)	Packed	Pk	Cat. No.
Small diameter, stacking with 3 vents	40	12,5	15/sleeve	720	710-3504
AQUA PLATE, semi-stacking, without vents	47	12,5	25/sleeve	750	710-3502
ALPINE FULL SIZE, semi-stacking with 4 vents	100	15	22/sleeve	264	710-3503

Petri dishes, coloured



Aseptic dishes coloured for easy identification.

- Produced in cleanroom conditions (class 100) to exclude microbiological contamination

Packaging: Packed 28 per sleeve, 25 sleeves per case.

Version	Ø (mm)	Height (mm)	Pk	Cat. No.
3 vents, blue	90	16,2	700	391-0243
3 vents, green	90	16,2	700	391-0244
3 vents, yellow	90	16,2	700	391-0245
3 vents, red	90	16,2	700	391-0246

Petri dish dispensers

Heathrow Scientific



Acrylic

This sturdy dispenser will hold up to twenty Ø 90 mm Petri dishes in two easy to access partitions.

- Place on the counter or mount on a wall
- Solid and clear
- Mounting screws included

W×D×H: 203×102×229 mm

Pk	Cat. No.
1	391-1165

Petri dish carrying rack, Poxygrid®



Epoxy coated steel wire rack

- Easily loaded and emptied from the top
- For plastic Petri dishes Ø 90 and 100 mm (not suitable for glass Petri dishes)

W×D×H: 108×108×356 mm (1 stack, for 20 dishes)

W×D×H: 343×105×305 mm (3 stacks, for 42 dishes)

Description	Pk	Cat. No.
Petri dish carrying rack, 1 stack	1	391-2011
Petri dish carrying rack, 3 stacks	1	391-2013

Inoculating loops



These loops ensure consistent wetting and complete liquid transfer. Available rigid or flexible, the loops have smooth edges to avoid gouging the surface of the media.

- Gamma sterilised
- Colour coded
- Hexagonal shaft for easy handling

Delivery information: Delivered with a calibration certificate in each box.

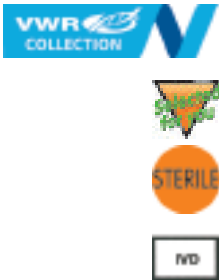
Description	Capacity (µl)	Colour	Packed	Pk	Cat. No.
Loops, rigid	1	Dark Green	bags of 10	500	612-9351
	1	Dark Green	bags of 20	1.000	612-9352
	10	Dark Blue	bags of 10	500	612-9353
	10	Dark Blue	bags of 20	1.000	612-9354
Loops, flexible	1	Light Green	bags of 10	500	612-9355
	1	Light Green	bags of 20	1.000	612-9356
	10	Light Blue	bags of 10	500	612-9357
	10	Light Blue	bags of 20	1.000	612-9358



Inoculating needles

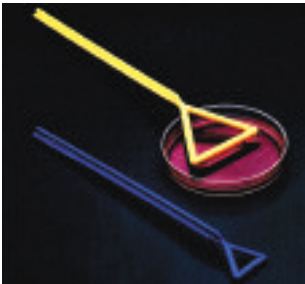


Plastic, single use, sterile
Packaging: Peelable sachets.



Description	Ø (mm)	Length (mm)	Colour	Pk	Cat. No.
Mini inoculation needles	1,15	150	Blue	500	612-2654
Inoculation needles	1,45	200	Violet	1.000	612-2655

Spreaders



Convenient and economical, these cell spreaders are designed to simplify bacterial culture work.

- Durable enough to be autoclaved and used again
- Width: 30 mm (blue) / 60 mm (yellow)



Description	Colour	Packed	Pk	Cat. No.
Sterile	Blue	Individually wrapped	25	612-2688
Sterile	Yellow	Individually wrapped	25	612-2690
Non sterile	Blue	Bulk	25	612-2687
Non sterile	Yellow	Bulk	25	612-2689

Spreaders, L-shaped



The foot of the spreader has a completely smooth, rounded surface, free of rough edges and imperfections. It enables even spreading of liquid samples across the surface of agar plates without gouging or cutting the medium.

- Surface treated to enhance adhesion of droplets
- Non toxic
- Gamma irradiated

Dimensions: 135×35 mm



Description	Colour	Packed	Pk	Cat. No.
Spreaders, L-shaped	Blue	individually packed	500	612-1560
Spreaders, L-shaped	Blue	5/bag	1.000	612-1561

Spreaders, T-shaped



Plastic, sterile
Designed for spreading and dispersing liquids across the surface of agar culture plates. Used for performing bacterial (for example, CFU) plate counts on water, milk and other liquid samples.

- Smooth rounded surfaces to prevent cutting or gouging of agar
- T-shaped to ensure even pressure is applied while spreading



Description	Colour	Packed	Pk	Cat. No.
T-shaped spreader	Blue	1/peel pouch	500	612-2651
		5/peel pouch	1.000	612-2652
		10/peel pouch	1.000	612-2653

Laboratory bottles, narrow mouth, with screw cap



Grade 3.3 borosilicate glass with PP screw cap

The economical alternative for a wide range of laboratory applications. Round, with graduations, DIN GL 45 thread, pouring ring and blue screw cap.

- Very good chemical resistance
- High temperature resistance
- Minimal thermal expansion

ISO 4796

Capacity (ml)	Pk	Cat. No.
100	10	215-1592
250	10	215-1593
500	10	215-1594
1000	10	215-1595



Laboratory bottles, narrow mouth, with screw cap

DURAN Group



DURAN®, borosilicate glass, with PP screw cap

Round, with graduation, DIN thread, pouring ring and blue screw cap.

- Very good chemical resistance
- High temperature resistance
- Minimal thermal expansion, giving relatively high resistance to temperature changes

With printed retrace code (batch identification); batch certificate available at www.duran-group.com

ISO 4796

Capacity (ml)	Thread	Ø ext. (mm)	Height (mm)	Pk	Cat. No.
50	GL 32	46	91	1	215-1513
100**	GL 45	56	105	1	215-1514
250**	GL 45	70	143	1	215-1515
500**	GL 45	86	181	1	215-1516
1000**	GL 45	101	230	1	215-1517

**Ring-shaped reinforcement on the bottle shoulder makes the filling line of the nominal volume visible



Laboratory bottles, narrow mouth

DURAN Group



DURAN®, borosilicate glass, without screw cap

Round, with graduation and DIN thread. Without pouring ring or screw cap.

- Very good chemical resistance
- High temperature resistance
- Minimal thermal expansion, giving relatively high resistance to temperature changes

With printed retrace code (batch identification); batch certificate available at www.duran-group.com

ISO 4796

Capacity (ml)	Thread	Ø ext. (mm)	Height (mm)	Pk	Cat. No.
50	GL 32	46	87	1	215-1533
100**	GL 45	56	100	1	215-1534
250**	GL 45	70	138	1	215-1535
1000**	GL 45	101	225	1	215-1537

**Ring-shaped reinforcement on the bottle shoulder makes the filling line of the nominal volume visible



Screw caps for laboratory bottles

DURAN Group



- PP, coloured, with lip seal**
- For DIN GL threads
 - Heat resistant up to +140 °C
 - Autoclavable



Colour	Thread	Pk	Cat. No.
Blue	GL 25	10	217-9208
Blue	GL 32	10	217-9209
Blue	GL 45	10	217-9212
Yellow	GL 45	10	215-1427
Green	GL 45	10	215-1428
Grey	GL 45	10	215-1429

Culture and sample tubes, disposable



- Polystyrene (PS), clear or Polypropylene (PP), natural**
- Precision moulded culture and sample tubes for a wide variety of applications. With round bottom. Sterile or non sterile.



- PS tubes: Not autoclavable. Temperature resistant from -40 to +90 °C. Can be centrifuged up to 1500×g
- PP tubes: Autoclavable up to +121 °C. Temperature resistant from -90 to +135 °C. Can be centrifuged up to 3000×g
- Press-in stopper or dual position push-on cap available for pressure equalisation or gas exchange whilst ensuring that the cap cannot fall off

Length (mm)	Capacity (ml)	Ø ext. (mm)	Material	Packed	Pk	Cat. No.
Tubes, non sterile, with dual position caps						
100	14	17	PS	1000/Bag	1.000	211-0077
100	14	17	PP	1000/Bag	1.000	211-0078
Tubes, sterile, with dual position caps						
100	14	17	PS	25/Bag	500	211-0084
100	14	17	PS	125/Bag	1.000	211-0082
100	14	17	PP	25/Bag	500	211-0085
100	14	17	PP	125/Bag	1.000	211-0083
Caps						
Cap	For tubes (mm)		Colour	Pk	Cat. No.	
Plug type	12/13		Natural	1.000	211-0135	
Plug type	12/13		Purple	1.000	211-0136	
Dual position type	17		Natural	1.000	211-0137	
Plug type	12/13		Assorted	3.000	211-0045	

Test tubes without rim



- AR-Glas®, soda lime glass**
- The economical, proven alternative in an economy size pack. Wall thickness approximately 0,8 to 1,0 mm.
- Good chemical and physical properties
 - Can also be used as disposable test tubes



Ø ext. (mm)	Length (mm)	Pk	Cat. No.
12	75	250	212-0013
16	100	250	212-0016
16	160	250	212-0019

Test tubes with or without rim



Borosilicate glass, grade 3.3

The economical alternative for a wide range of uses. Thick wall. Wall thickness approximately 0,8 to 1,2 mm.

- Very good chemical resistance
- High temperature resistance
- Minimal thermal expansion, giving relatively high resistance to temperature changes

DIN 12395

Ø ext. (mm)	Length (mm)	Wall thickness (mm)	Pk	Cat. No.
With rim				
12	75	0,9 - 1,0	100	212-0307
12	100	0,9 - 1,0	100	212-0308
14	130	0,9 - 1,0	100	212-0309
16	130	1,1 - 1,2	100	212-0310
16	160	1,1 - 1,2	100	212-0311
18	180	1,1 - 1,2	100	212-0312
20	150	1,1 - 1,2	100	212-0313
20	180	1,1 - 1,2	100	212-0314
25	150	1,1 - 1,2	50	212-0315
25	200	1,1 - 1,2	50	212-0316
30	200	1,1 - 1,2	50	212-0317
Without rim				
10	75	0,8 - 1,0	100	212-0027
10	100	0,8 - 1,0	100	212-0029
12	75	0,8 - 1,0	100	212-0028
12	100	0,8 - 1,0	100	212-0030
14	130	0,9 - 1,0	100	212-0318
16	130	1,1 - 1,2	100	212-0319
16	160	0,8 - 1,0	100	212-0031
18	180	0,8 - 1,0	100	212-0032
20	150	1,1 - 1,2	100	212-0320
20	180	1,1 - 1,2	100	212-0321
25	150	1,1 - 1,2	50	212-0322
25	200	1,1 - 1,2	50	212-0323
30	200	1,1 - 1,2	50	212-0324

Caps, LABOCAP



Aluminium

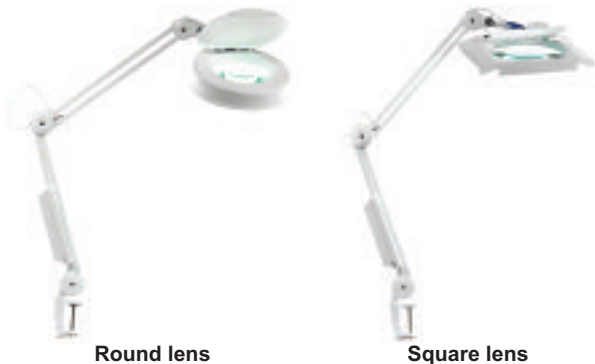
With handle. Cap for sterile but not hermetic closing of test tubes and other vessels.

- Made of anodised aluminium with inner stainless steel spring
- Springs clamp against the outer wall of the vessel
- Anodised and coloured
- Autoclavable



Description	For Ø ext. (mm)	Pk	Cat. No.
LABOCAP, silver	15/16	10	391-0094
LABOCAP, silver	17/18	10	391-5930
LABOCAP, blue	17/18	10	391-5931
LABOCAP, red	17/18	10	391-5932

Illuminated stand magnifiers



These magnifiers are manoeuvrable for precision work and quality control.

- Standard table bracket
- Polished glass lens for a large viewing area
- A cover protects the lens from dust when the magnifier is not used and scratches from the users
- Articulated arm (800 mm) provides 200° head rotation
- Energy saving, compact fluorescent lamp

Cable: 1,8 metre

Description	Magnification	Ø (mm)	Pk	Cat. No.
Round lens				
22 W, EU-plug	1,5×	127	1	630-1053
22 W, UK-plug	1,5×	127	1	630-1054
22 W, CH-plug	1,5×	127	1	630-1055
Square lens				
2×9 W, EU-plug	1,5×	190×157	1	630-1050
2×9 W, UK-plug	1,5×	190×157	1	630-1051
2×9 W, CH-plug	1,5×	190×157	1	630-1052
Accessories				
Description			Pk	Cat. No.
Bulb for square lens magnifiers			1	630-1070
Bulb for round lens magnifiers			1	630-1071
Floorstand with four wheels			1	630-1075

Binocular and trinocular stereo zoom microscopes, SMZ-168 series

Motic



These stereo zoom microscopes provide a high optical resolution. They are suitable for quality control and research applications.



- Anti-fungal properties
- Working distance: 113 mm
- Smooth mechanism for zoom magnification with five-position click-stops
- Greenough optical system
- Magnification of 7,5 to 50× standard and 3,8 to 320× with extra accessories

Model	SMZ-168-BL	SMZ-168-BP	SMZ-168B-LED	SMZ-168-TL	SMZ-168-TP	SMZ-168T-LED
Type	Binocular	Binocular	Binocular	Trinocular	Trinocular	Trinocular
Head	35° inclined, 360° rotating			35° inclined, 360° rotating		
Eyepiece	WF 10×/23	WF 10×/23	WF 10×/23	WF 10×/23	WF 10×/23	WF 10×/23
Zoom	0,75 - 5×	0,75 - 5×	0,75 - 5×	0,75 - 5×	0,75 - 5×	0,75 - 5×
Illumination	Halogen 12 V/10 W	None	LED	Halogen 12 V/10 W	None	LED

Ordering information: For SMZ-168-TL and SMZ-168-TP, cameras and adapters, please contact your local VWR sales office.

Delivery information: Supplied with frosted glass, B&W stages and vinyl dust cover.

Description	Pk	Cat. No.
SMZ-168-BP, binocular	1	630-0461
SMZ-168-BL, binocular	1	630-0460
SMZ-168B-LED, binocular	1	630-1283
SMZ-168-TP, trinocular	1	630-0463
SMZ-168-TL, trinocular	1	630-0462
SMZ-168T-LED, trinocular	1	630-1282

Binocular and trinocular upright microscopes, BA 210 and BA 310 series

Motic



For educational, teaching and routine environments

These microscopes can be used in environmental, food, healthcare, research and educational applications (and can be equipped with phase contrast, darkfield and polarising accessories). The BA 310 features Köhler illumination with field diaphragm and a larger base. The digital models are supplied with a built-in 3,0 megapixel camera with data transfer of 480 MB/s USB 2.0, a resolution of 2048×1536, white balance manually adjustable. Recommended operating system is Windows XP, Vista or Seven, or Mac: OSX, USB 2.0.

- Multi-layer coated lenses for improved contrast even with weak staining
- Phase contrast available and darkfield is possible with a separate slider
- Stage is coated for consistent XY movement, resistant against abrasion and chemicals

Delivery information: Supplied with blue filter, hexagonal allen key, immersion oil and vinyl dust cover.

BA 210. For general purpose applications in universities and laboratories

Model	BA 210	BA 210	BA 210 LED	BA 210 LED	BA 210 digital
Type	Binocular	Trinocular	Binocular	Trinocular	Binocular
Contrasting technique	Brightfield	Brightfield	Brightfield	Brightfield	Brightfield
Head	Siedentopf, 30° inclined, 360° rotating	Siedentopf, 30° inclined, 360° rotating, 20:80 light split	Siedentopf, 30° inclined, 360° rotating	Siedentopf, 30° inclined, 360° rotating, 20:80 light split	Siedentopf, 30° inclined
Eyepiece	WF 10×/20 with diopter		WF 10×/20 with diopter adjustment and rubber eyecup		
Nosepiece	Quadruple				
Objectives	Infinity, Plan achromatic 4×, 10×, 40× (spring) 100× (spring, oil immersion)				
Stage	Mechanical, 140×135 mm surface, 76×50 mm movement				
Focusing system	Coaxial coarse and fine drive				
Condenser	Abbe 1,25 N.A.	Abbe 1,25 N.A.	Abbe 1,25 N.A.	Abbe 1,25 N.A.	Abbe 1,25 N.A.
Illumination	Halogen 6 V/30 W	Halogen 6 V/30 W	LED	LED	Halogen 6 V/30 W
Camera	-	-	-	-	3,0 megapixels

Description	Pk	Cat. No.
BA 210, binocular	1	630-3044
BA 210, trinocular	1	630-3045
BA 210 LED, binocular	1	630-1141
BA 210 LED, trinocular	1	630-1142
BA 210 digital, binocular	1	630-1143

BA 310. High performance for laboratories, clinics and hospitals

Model	BA 310	BA 310	BA 310 LED	BA 310 LED	BA 310 digital
Type	Binocular	Trinocular	Binocular	Trinocular	Binocular
Contrasting technique	Brightfield	Brightfield	Brightfield	Brightfield	Brightfield
Head	Siedentopf, 30° inclined, 360° rotating	Siedentopf, 30° inclined, 360° rotating, 20:80 light split	Siedentopf, 30° inclined, 360° rotating	Siedentopf, 30° inclined, 360° rotating, 20:80 light split	
Eyepiece	WF 10×/20	WF 10×/20	WF 10×/20	WF 10×/20	WF 10×/20
Nosepiece	Quintuple				
Objectives	Infinity, Plan achromatic 4×, 10×, 40× (spring) 100× (spring, oil immersion)				
Stage	175×140 mm, 76×50 mm movement				
Focusing system	Coaxial coarse and fine drive				
Condenser	Abbe 1,25 N.A.	Abbe N.A. 1,25	Abbe 0,90/1,25 N.A.	Abbe 1,25 N.A.	Abbe 1,25 N.A.
Illumination	Halogen 6 V/30 W, Köhler	Halogen 6 V/30 W, Köhler	LED, Köhler	LED, Köhler	Halogen 6 V/30 W, Köhler
Camera	-	-	-	-	3,0 megapixels

Description	Pk	Cat. No.
BA 310, binocular	1	630-3046
BA 310, trinocular	1	630-3047
BA 310 LED, binocular	1	630-1144
BA 310 LED, trinocular	1	630-1145
BA 310 digital, binocular	1	630-1146

New generation digital cameras, Moticam Motic



Moticam 1



Moticam 3



Moticam 5

CMOS technology

The **Moticam 1 series** cameras are suitable for schools and laboratories. They can be used with interactive white boards for integrated teaching. The live resolution along with the colour balance make these cameras a great tool for a first introduction to digital microscopy.

Moticam 2 and 3 are fast cameras providing high resolution live imaging up to 3,0 megapixels. They are designed for use in colleges and universities, as well as in clinics and veterinary centres.

The **Moticam 5 and 10** offer up to 5 or 10 megapixels live. The rapid view algorithms allow the user to display a faster frame rate at full screen while still being able to capture an image at maximum resolution.

- "All-in-one-box" concept to fit on almost every microscope by adapting the camera on the eyepiece
- C-mount connection for mounting on the trinocular tube or onto the eyepiece
- Note: The C-mount adapter must be purchased with the microscope



Model	Live resolution	Optical calculation	Focusable lens
Moticam 1	800×600 pixels	1/4"	8 mm
Moticam 1SP	1,3 megapixels	1/3"	12 mm
Moticam 2	2,0 megapixels	1/3"	12 mm
Moticam 3	3,0 megapixels	1/2"	16 mm
Moticam 5	5,0 megapixels	1/2,5"	12 mm
Moticam 10	10 megapixels	1/2,5"	12 mm

Delivery information: Supplied with Image Plus Software (PC/Mac), eyepiece adapters (Ø 30 and 38 mm), calibration slide, USB cable, macro lens (which can be focused) and a macrotube for macro-specimens.

Description	Pk	Cat. No.
Moticam 1, 800×600 pixels	1	630-1517
Moticam 1SP, 1,3 megapixels	1	630-1520
Moticam 2, 2,0 megapixels	1	630-1518
Moticam 3, 3,0 megapixels	1	630-1519
Moticam 5, 5,0 megapixels	1	630-1515
Moticam 10, 10,0 megapixels	1	630-1513

Tabletop electron microscopes, TM 3000

Hitachi



Unmatched image quality

The compact and flexible TM 3000 guarantees high quality resolution and magnification. This scanning electron microscope goes beyond the limits of an optical microscope (up to 30 000× magnification). It has been developed to give rapid results without the need for special preparation of samples. It can be used in many sectors, including food, pharmaceutical, cosmetics and healthcare, not to mention life science, polymer science, materials science, semiconductors and education.

- Magnification of 20× to 30 000×
- Space-saving 80×50 cm
- Easy to use: Only five steps to obtain an image in under five minutes

Elemental analysis - EDX

These X-ray analysis units can be installed inside the TM 3000 to give a qualitative and quantitative analysis of the samples under observation. The two systems refer to the periodic table of elements. The Quantax 70 (Bruker) measures the elements between Boron (5) and Americium (95), and the Swift ED 3000 (Oxford Instruments) measures the elements between Boron (5) and Uranium (92). Results can be displayed in graph, table or mapping format.

Ordering information: The "EDX kit" is required to install EDS analysis units.

Description	Pk	Cat. No.
Electron microscope, TM 3000	1	630-1259
Electron microscope, TM 3000 with XY motorised stage	1	630-1260

Accessories		
Description	Pk	Cat. No.
Cartridge Wehnelt	1	630-1256
Cartridge filament	10	630-1258
SwiftED 3000 X-ray microanalysis system	1	630-1257
EDX kit	1	630-1261
Quantax 70 EDS	1	630-1262

Please contact your local VWR sales office for further details or to arrange a demonstration.

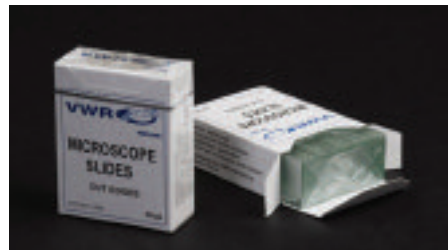
Cool stages



Description	Pk	Cat. No.
Cool stage, -30...50 °C	1	630-1546
Cool stage, -50...50 °C	1	630-1547

Stage control		
Description	Pk	Cat. No.
XY stage control with joystick and display	1	630-1548

Microscope slides



Glass

These slides with cut or ground edges are either plain or frosted.

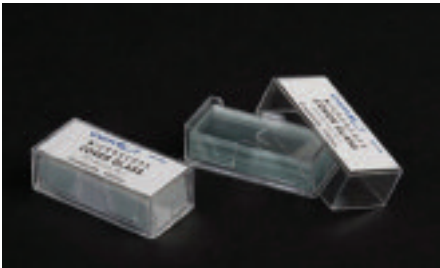
W×D×H: 76×26×1 mm

Cut edges		
Description	Pk	Cat. No.
Plain	50	631-1550
Frosted	50	631-1551

Ground edges		
Description	Pk	Cat. No.
Plain	50	631-1552
Frosted	50	631-1553



Cover glasses



The cover slips are made from transparent hydrolytic class 1 glass and are suitable for *in vitro* diagnostic applications.

- Free of bubbles and flaws
- Cleaned and polished
- Rectangular or round

Thickness: 0,13 - 0,16 mm

Packaging: 10×100 slips packed in plastic dispenser boxes.

Rectangular			
L×W (mm)	Thickness (mm)	Pk	Cat. No.
21×26	0,13 - 0,16	2.000	631-1569
Square			
L×W (mm)	Thickness (mm)	Pk	Cat. No.
15×15	0,13 - 0,16	1.000	631-1566
18×18	0,13 - 0,16	1.000	631-1567
22×22	0,13 - 0,16	1.000	631-1570



Cell counting chambers, Bürker
Marienfeld



Glass

These cells counters for investigations of cell suspensions are equipped with two sets of grids. They are engraved into two ground and polished surfaces on the central ridge (=chamber bottom). This central ridge is located between two elevated ridges that are also ground and polished.

- *In vitro* diagnostic applications

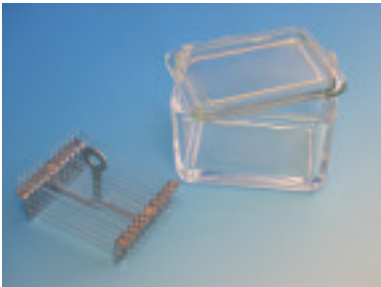
Conform to DIN 12847 and the German Calibration Ordinance

Delivery information: Supplied in a transparent plastic box.

Description	Pk	Cat. No.
Cell counting chamber, dark lined, Bürker	1	631-0920
Cell counting chamber, bright lined, Bürker	1	631-0921
Cell counting chamber, dark lined, with spring clips, Bürker-Türk	1	631-0922



Staining dishes



Glass

Staining dish for 76×26 mm slides or slides with width up to 45 mm.

- Removable cover

Description	W×D×H (mm)	Pk	Cat. No.
Staining dish with lid and tray for 10 slides	90×70×65	1	631-0346
Staining dish with lid, without tray	90×70×65	1	631-0347
Accessories			
Description	W×D×H (mm)	Pk	Cat. No.
Lid for staining dish	-	1	631-0864
Stainless steel rack for staining jars, for 10 slides	-	1	631-0348

Staining jars
Kartell



PMP (TPX), crystal clear

Staining jar similar to Hellendahl design for 16 standard microscope slides 76×26 mm (in pairs, back to back).

- Extension and cover

Description	W×D×H (mm)	Pk	Cat. No.
Staining jar, Hellendahl type	57×57×90	1	631-9130

Supplements	118
Ready To Use Media	119
Media Bags	122
Contact- & Dipslides	124
Alternative Media & Accessories	125
Storage of Micro-Organisms	126
Cleaning Solutions	127





Media supplements



The isolation of microorganisms often requires the use of selective media. The use of freeze-dried supplements ensures an optimal and standardised media preparation and optimised performance. For 500 ml medium.

- Freeze-dried, no aerosols of toxic agents released upon opening
- Standard volumes make preparation easier
- User friendly screw caps

Description	Pk	Cat. No.
Ampicillin selective supplement	10	928010NL
Brilliant green and novobiocin selective supplement	10	928310NL
Campylobacter Butzler selective supplement	10	928040OL
Campylobacter CCDA selective supplement	10	928070NL
Campylobacter growth supplement	10	928030NL
Campylobacter Preston mod. selective supplement	10	928250NL
Coliform CV selective supplement	10	928390NL
Cycloheximide selective supplement	10	928370NL
D-Cycloserine selective supplement	10	928330NL
Egg yolk sterile emulsion	100 ml	351430ZF
Egg yolk tellurite sterile emulsion	50 ml	361430XF
Egg yolk tellurite sterile emulsion	100 ml	351430XF
Ferric ammonium citrate supplement (312 mg)	10	928340NL
Ferric ammonium citrate supplement (250 mg)	10	928300NL
Listeria Oxford selective supplement	10	928170OL
Listeria UVM I selective supplement	10	928150NL
Listeria UVM II selective supplement	10	928160NL
M-CP selective supplement	10	928320NL
MUG fluorescent supplement	10	928360NL
Nalidixate selective supplement	10	928090NL
Oxitetraciclina selective supplement	10	928190NL
Polymixin selective supplement	10	928020NL
RPF supplement	10	602730ZL
Sodium bisulphite selective supplement	10	928350NL
VCNT selective supplement	10	928230NL

Culture media, ready to use, in plates



For various microbiological applications.

- Packed under cleanroom conditions to avoid contamination
- Manufactured with formulations that follow specifications of the various Pharmacopoeias and ISO regulations

Packaging: Plates: 1 pack contains 3 bags of 10 plates; Blister: 1 pack contains 5 blisters with 6 plates each.



Description	Filling	Standard	Pk	Cat. No.
Plates 55 mm				
Bile esculin azide agar	12 ml	ISO 7899-2:2001	30	170082UA
Cetrimide agar (CN)	12 ml	ISO 12780:2002	30	170793NA
Mannitol agar	12 ml	Harm Ph	30	170560ZA
M-Green agar	12 ml	-	30	171300ZA
Nutrient agar	12 ml	-	30	170692ZA
Slanetz & Bartley agar	10 ml	ISO 7899-2	30	170980ZA
TSA agar	12 ml	Harm Ph	30	171114ZA
Tryptone yeast agar	12 ml	ISO 6222:1999	30	171250ZA
Plates 55 mm, blister				
R2A agar	12 ml	Eu Ph	30	200802ZI
Tergitol-7 (TTC) agar	12 ml	-	30	201023ZJ
Tergitol-7 agar, double wrapped	13 ml	ISO 9308-1	30	201023ZA
Plates 90 mm				
Baird Parker RPF agar	20 ml	ISO 6888-2	20	102950IM
Baird-Parker agar	20 ml	ISO 6888-1:1999	20	100063UA
Bile esculine azide agar	20 ml	ISO 7899-2:2001	20	100082XA
Bismuth sulfite agar	22 ml	-	20	102770ZA
BPLS agar acc. to Kristensen (brilliant green, phenol red, lactose, saccharose)	20 ml	acc. potable water, spanish legislation	20	100121ZA
Campylobacter blood-free CCDA agar	20 ml	ISO 10272:2006	20	100191ZF
Cetrimide agar	20 ml	Harm Ph	20	100793ZA
Chocolate agar with supplement	20 ml	-	20	101591ZF
Chromocult E. coli agar	20 ml	-	20	101274ZA
CT-SMAC (E.coli 0:157) agar	20 ml	-	20	100683AA
Dichlor. Rose Bengal chloramp. agar	20 ml	-	20	103660XF
DNAse test agar	20 ml	-	20	100291ZA
EMB agar	20 ml	ISO 21150:2006	20	100331ZA
Hektoen enteric agar	20 ml	-	20	100371ZA
Lactose TTC agar Tergitol-7	20 ml	ISO 9308-1	20	101023ZA
Legionella BCYE non Cysteine	20 ml	ISO 11731:1998	20	100460XF
Listeria selective agar ALOA	20 ml	ISO 11290-1+2	20	102898KA
MacConkey agar	20 ml	Harm Ph	20	100641ZA
Mannitol salt agar	20 ml	Harm Ph	20	100560ZA
MRS agar	20 ml	-	20	100582ZA
MRS cysteine agar	20 ml	-	20	100582JA
MRS +sorbic acid agar	20 ml	-	20	100582XA
OGYE agar	20 ml	ISO 13681:1995	20	100720ZA
Palcam agar	20 ml	EN ISO 11290-1,11290-2	20	100742ZA
Plate count agar	20 ml	UNE-EN ISO 4833:2003	20	100774ZA
Potato dextrose agar	20 ml	-	20	AX051132
Rambach agar	20 ml	-	20	101294ZA
Rose Bengal agar	20 ml	-	20	100070ZA
Salmonella Shigella agar	20 ml	-	20	100911ZA
Slanetz & Bartley enterococcae agar	20 ml	ISO 7899-2:2000	20	100980ZA
TSA	20 ml	Harm Ph	20	101114ZA
TSC agar	20 ml	UNE EN 13401 and UNE EN 26461-2	20	101141AA
TSN agar	20 ml	-	20	101370ZA
VRB agar	20 ml	EP	20	101183ZA
VRBD agar	20 ml	Harm Ph	20	101203ZA
Wort agar	20 ml	-	20	112321TA
XLD agar	20 ml	Harm EP, USP, JP	20	101241ZF
XLD novobiocin agar	20 ml	Harm Ph	20	101241AF
XLT4 agar	20 ml	-	20	101874ZA



Culture media, ready-to-use, in bottles



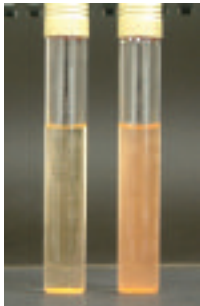
Ready-to-use culture media for microbiological test requirements in the food industry, water and environmental control and in the pharmaceutical industry. The range is manufactured from high quality raw materials. All the culture media are manufactured using selected dehydrated bases, and comply with various standards. All media are produced using the latest technology and are subject to strict quality controls carried out by qualified microbiologists.



- Storage at room temperature for selected media
- Supplied in glass bottles with different screw caps
- Certificate of Analysis, which guarantees product conformity

Description	Filling	Standard	Size	Cap	Pk	Cat. No.
Antibiotic medium E	200 ml	-	250 ml	Aluminium	6	AX022241
Baird Parker agar base	90 ml	-	125 ml	Aluminium	10	312950ZA
Baird Parker agar base	180 ml	-	250 ml	Aluminium	10	430063ZA
BHI broth mod.	100 ml	-	125 ml	Aluminium screw outer cap + elastomer inner septum	10	303415ZA
Bordet jengou	100 ml	-	250 ml	-	10	AX029167
Bolton broth (base)	200 ml	-	250 ml	-	10	563390ZF
Buffered peptone water	225 ml	ISO 6579, ISO 8523 and ISO 6785	250 ml	Aluminium screw outer cap + elastomer inner septum	10	400173ZA
Buffered peptone water 0,1%	100 ml	Harm Ph	125 ml	Plastic screw inner cap + elastomer septum + protective outer, cap + shrink wrapped plastic sleeve	10	301314ZA
Buffered peptone water 0.1 %	475 ml	-	500 ml	Aluminium screw outer cap + elastomer inner septum	1	561314ZA
Buffered peptone water 10% Tween	100 ml	Harm Ph	125 ml	Aluminium screw outer cap + elastomer inner septum	10	303480TA
Cetrimide agar	100 ml	EP, USP	150 ml	Aluminium	10	AX021182
Chromocult Coliform agar	200 ml	-	250 ml	Aluminium screw outer cap	10	401274ZH
Dextrose Tryptone agar (DTA)	100 ml	-	125 ml	-	10	303525ZA
EE broth, Mossel	90 ml	EP	150 ml	Aluminium screw outer cap + elastomer inner septum	10	AX029148
Half Fraser broth	225 ml	-	250 ml	Plastic screw inner cap + elastomer septum + protective outer cap + shrink wrapped plastic sleeve	10	400343VF
MacConkey agar no 3	100 ml	-	125 ml	Aluminium screw outer cap + elastomer inner septum + shrink wrapped plastic sleeve	10	300641ZA
MRS agar	200 ml	DIN 13721, ISO 10109	250 ml	Aluminium screw outer cap + elastomer inner septum	10	400582ZA
MYP agar base	90 ml	ISO 7932:2004	250 ml	Aluminium screw outer cap + elastomer inner septum	10	310053ZA
NaCl peptone water	90 ml	ISO 6887-1	125 ml	Plastic screw inner cap + elastomer septum + protective outer cap + shrink wrapped plastic sleeve	10	313155ZA
PCA without glucose	100 ml		150 ml	Aluminium	10	AX021264
Pharmacopoeia diluent with neutralising agent (DNP)	90 ml	-	150 ml	Aluminium screw outer cap + elastomer inner septum	10	AX021146
R2A Medium	100 ml	EP, EPA	125 ml	Aluminium screw outer cap + elastomer inner septum	10	300802ZA
Rappaport Vassiliadis broth				Aluminium screw outer cap + elastomer inner septum	10	AX021263
Sabouraud 2% glucose agar	200 ml	-	250 ml	Aluminium	6	AX022245
Tributyrin agar	100 ml	-	125 ml	Aluminium screw outer cap + elastomer inner septum	10	301353ZA
TSA, Tryptic soy agar	400 ml	Harm Ph, ISO 9308-1	500 ml	Aluminium screw outer cap + elastomer inner septum	10	551114ZA
VRB agar	200 ml	Harm Ph ISO 5552	250 ml	Aluminium screw outer cap + elastomer inner septum	10	401183ZA
VRBD agar	200 ml	Harm Ph ISO 5552	250 ml	Aluminium screw outer cap + elastomer inner septum	10	401203ZA

Culture media, ready-to-use, in tubes



- For various microbiological uses.
- Storage at room temperature for selected media
 - Compact packaging, tubes are fitted with aluminium screw caps



Description	Filling	Standard	Pk	Cat. No.
Azide broth (Rothe)	10 ml	-	20	690042ZA
Brain heart infusion broth	10 ml	-	20	600113ZA
Brilliant green bile broth	9 ml	APHA, AWWA	20	690144ZA
Buffered peptone water	9 ml	ISO 6579, ISO 8523, ISO 6785	20	610173ZA
Buffered peptone water 0,1%	10 ml	-	20	601314ZA
EE Mossel broth	9 ml	Harm Ph	20	600304ZA
Fraser broth	10 ml	-	20	600343ZF
Giolitti Cantoni broth	9 ml	-	20	610360ZF
Lactose broth	9 ml	EP, USP, EPA	20	690440ZA
Lactose broth, Durham tubes 16x112 mm	9 ml	ISO 4831:2006	20	650440ZA
Lauryl sulphate broth	9 ml	-	20	690450ZA
Lethen broth	10 ml	FDA	20	601580ZA
MacConkey broth	9 ml	Harm Ph	20	690674ZA
Maximum recovery diluent	9 ml	ISO 6887-1	20	613120ZA
MRS broth, Durham tube	9 ml	-	20	690592ZA
Mueller-Kauffmann Tetrathionate broth	10 ml	ISO 6579:2002	20	601030ZA
Orange serum agar	20 ml	-	20	730731ZA
Orange serum agar acid	9 ml	-	20	730733IA
Palcam broth	10 ml	-	20	601410ZF
PCA agar	15 ml	ISO 4833	20	730774ZA
Pharmacopoeia diluent with neutralising agent (DNP)	9 ml	-	50	AX011158
Rappaport Vassiliadis broth	10 ml	ISO 6579:2002	20	600834ZA
Ringer solution	10 ml	-	20	601770ZA
RVS broth	10 ml	EP, USP, JP, Harm Ph	20	603552ZA
Selenite cystine broth	10 ml	ISO 6579	20	600954ZA
Simmons citrate agar	6 ml	-	20	640971ZA
SPS agar (Perfringens selective agar)	10 ml	-	20	601320ZA
SPS agar DC	10 ml	-	20	761320WA
TSB	10 ml	USP, FDA and Eu Ph	20	601121ZA
TSB tryptic soy broth with neutralisers TLHTh	10 ml	-	20	721115TA
TSN agar	9 ml	-	20	601370ZA
Violet red bile glucose agar (VRBG)	15 ml	Harm Ph	20	731203ZA
VP-RM broth	10 ml	-	20	600531ZA

Culture media, ready-to-use, in bags



Microbiology media in bags are ideally suited for high sample volumes.

- Space saving packaging
- No risk associated with broken glass bottles
- Media can be easily and conveniently dispensed using a gravimetric diluter or peristaltic pump



Description	Filling	Packed	Pk	Cat. No.
Buffered peptone water	3 l	3×3 l	3	800179ZB
Buffered peptone water	5 l	2×5 l	2	850179ZB
Buffered peptone water	2 l	5×2 l	5	870179ZB
Fraser broth 1/2	5 l	2×5 l	2	850343VB
Malt extract broth	5 l	2×5 l	2	853604ZB
Maximum recovery diluent	5 l	2×5 l	2	853120ZB
Tryptone soya broth (TSB)	3 l	3×3 l	3	801121ZB

Culture media, ReadyBag



Each bag contains a pre-weighed amount of granulated media in a double-bagged bag and is irradiated. Just in time enrichment - add sterile water and sample material.



- Space saving, no bottles taking up shelf space
- Long shelf life
- No autoclaving and optimum solubility
- Dust-free work condition

ReadyBag, Buffered Peptone Water (BPW) irradiated

Non selective pre-enrichment broth to increase recovery of bacteria, particularly pathogenic Enterobacteriaceae from foodstuffs. The culture medium complies with ISO 6579:2002.

The lab-blender bag contains 5,75 g of BPW to which 225 ml of sterile water and 25 g (or 25 ml) of sample material is added.

The following media are approved for the bag system:

- Tryptic soy broth
- Fraser broth base
- Lactose broth
- MacConkey broth
- Listeria enrichment broth
- mEC broth
- UVM broth
- Nutrient broth

The composition is according to standard methods such as ISO, AFNOR, NMKL etc.

Packaging: Special formulations and packaging formats available on request.

Description	Volume	Pk	Cat. No.
Small bag with BPW, irradiated, ready-to-use			
ReadyBag, BPW sachets	225 ml*	100	7501.00225
Standbag with BPW, irradiated, ready-to-use			
ReadyBag, standbag with BPW	900 ml*	100	7301.00900
ReadyBag, standbag with BPW	1125 ml*	100	7301.01125
ReadyBag, standbag with BPW	2250 ml*	100	7301.02250
Large bag with BPW, irradiated, ready-to-use			
ReadyBag, big bag with BPW	4500 ml*	20	7201.04500
ReadyBag, big bag with BPW	6750 ml*	20	7201.06750
ReadyBag, big bag with BPW	9000 ml*	20	7201.09000
Twirlzak bag with BPW, irradiated, ready-to-use			
ReadyBag, Twirlzak bag with BPW	900 ml*	100	7101.00900

* Quantity of sterilised water addition for optimal medium used

Accessories			
Description	Volume (ml)	Pk	Cat. No.
ReadyBag empty box	5000	10	8000.05000

Culture media, Mediabag T



The T bag is filled with pre-weighed granulated media. Connect the filter unit, 0,2 µm, aseptically to the tube by using the the connector device. Add sterile water under aseptic conditions into the bag via the filter sytem. Protect the tube end with the red cap.



Description	Pk	Cat. No.
Mediabag T for 5 l BPW (buffered peptone water)	20	7701.05000
Mediabag T for 10 l BPW (buffered peptone water)	20	7701.10000
Mediabag T for 15 l BPW (buffered peptone water)	15	7701.15000
Mediabag T for 20 l BPW (buffered peptone water)	15	7701.20000
Mediabag T for 20 l maximum recovery diluent	15	7702.20000

Culture media, Mediabag W



The W bags are folded bags without connectors.



Description	Application	Pk	Cat. No.
Mediabag for 125 ml skimmed milk		100	7503.00225
Mediabag for 125 ml 1/2 Fraser broth		100	7504.00225
Mediabag W for 1800 ml BPW (Buffered Peptone Water)		50	7901.01800

Filtration capsules Sartobran® 150 and 300
Sartorius Stedim Biotech



Cellulose acetate membrane, PTFE vent filter, PP housing and PC filling bell, steam sterilised



Ready to use pressure filtration units for sterile filtration of 100 ml to 50 litres of buffers, infusion solutions, tissue culture solutions, serum and other solutions containing proteins. A hydrophobic PTFE membrane validated for sterile air filtration allows an effective air bubble collection at the highest point upstream.

- Cost saving scale-up to larger volumes

Individually sterile packed

Inlet/outlet	Hose nipple 6 - 12 mm (except 611-0728 in- and outlet ½" triclamp ; 512-3336 inlet ½" triclamp and outlet hose nipple)		
Max. pressure (bar)	4 at 20 °C		
Pore size (µm)	Filtration area (cm²)	Pk	Cat. No.
0,45/0,2	150	5	512-3336
0,45/0,2	300	2	512-3331

Contact plates, blister



The range is manufactured from high quality raw materials. All the culture media are manufactured using selected dehydrated bases, and comply with the requirements of ISO 11133 (food microbiology). Manufactured under GMP, the media is produced using the latest technology and is subject to strict quality controls carried out by qualified microbiologists.

- Packed under cleanroom conditions to avoid contamination
- Storage at 2 to 8 °C
- Manufactured under GMP with formulations that follow specifications of the various Pharmacopoeias and ISO regulations

Description	Filling	Pk	Cat. No.
Contact plates total count	16,5 ml	40	AX061101
Mannitol salt agar	12 ml	30	250560ZA
Neutralising agar	12 ml	30	251630ZY

Dip slides



Dip slides for semi-quantitative monitoring of surfaces and in liquids. Testing with dip slides is a safe, reliable, economical and fast indicator of the presence of microorganisms. The dip slides with a push cap have a larger contact area.

- Supplied sterile
- Sampling takes only a few seconds
- The results are easily read after just 24-48 hours

Type	Push cap
Contact area (cm²)	10
Dimensions	30 mm tube, 110 mm high
Paddle size (mm)	80×28
Tray W×L (mm)	50×22

Description	Pk	Cat. No.
Push cap		
Baird Parker	10	535302D
Baird Parker	100	535303D
Baird Parker and VRBG	10	535308D
Malt extract agar	100	535329D
Nutrient agar and Pseudomonas agar	10	535182R
Nutrient agar and Pseudomonas agar	100	535184T
Nutrient agar TTC and rose bengal agar	100	535114F
Nutrient agar with TTC and neutralisers	100	535310D
Plate count agar and MacConkey agar	100	535144L
Plate count agar and VRBGA	100	535164P
Plate count agar MacConkey agar with neutralisers	100	535154N
Plate count agar with neutralisers	10	535324D
Plate count agar with TTC	10	535311D
Plate count agar with TTC	100	535312D
Plate count agar with TTC and neutralisers	10	535313D
Pseudomonas CFC and MacConkey 3 agar	100	535323D

Culture Media, Ready-to-use, Compact Dry



Ready to use dehydrated film media in rigid plastic with lid for cultivating and counting microorganisms in food, for monitoring product quality and potential contamination. The plates can be used to test raw material as well as finished products. The microorganisms are identified by the colours, developed by chromogenic substrates and redox indicators.



- Ready to use - place 1 ml sample onto the plate and incubate
- Easy to read - colonies are pigmented with different colours
- Easy to store at room temperature - long shelf life of 12 - 15 months
- Space saving and stackable

Dry TC, EC, CF, YM, XSA are AOAC approved

Dry TC, EC, CF, ETB, XSA are MicroVal approved

Dry TC, EC, CF, ETB, XSA are NordVal approved

European validation and certification alternative methods acc. to EN ISO 16140

Description	Pk	Cat. No.
Compact Dry CF (Coliform)	40	710-2007
Compact Dry CF (Coliform)	920	710-2039
Compact Dry EC (E. coli, Coliform), AOAC RI approved	40	710-2004
Compact Dry ETB (Enterobacteriaceae)	40	710-2029
Compact Dry ETB (Enterobacteriaceae)	920	710-2043
Compact Dry ETC (Enterococci)	40	710-2032
Compact Dry ETC (Enterococci)	920	710-2044
Compact Dry LS (Listeria)	40	710-2016
Compact Dry SL (Salmonella)	40	710-2023
Compact Dry SL (Salmonella)	240	710-2024
Compact Dry TC (total counts), AOAC RI approved	40	710-2001
Compact Dry VP (V.parahaemolyticus)	920	710-2042
Compact Dry XSA (S.aureus)	40	710-0707
Compact Dry YM (yeast & mould), AOAC RI approved	40	710-2010
Compact Dry YM (yeast & mould), AOAC RI approved	920	710-2040

Dilution rack for Compact Dry



Sterile cups for easy 10-fold dilution of samples. Filled with 9 ml buffered sodium chloride solution.



- Cups can be separated into singles
- Easy to open
- Storage at room temperature
- Long shelf life

Description	Pk	Cat. No.
Rack MT-11	128	710-0605
Accessories		
Description	Pk	Cat. No.
Opener for dilution cups	1	710-2014

Swabs for Compact Dry



Sterile swab in a tube. After sampling, the swab is returned to the tube and the sample is extracted into 1 ml of supplied buffer solution which can then be spread on to a Petri dish.



- Compact Dry swabs for sampling in difficult areas and checking dry areas
- Can be stored at room temperature for up to two years

Description	Pk	Cat. No.
Swabs for Compact Dry	40	710-2026
Swabs for Compact Dry	240	710-2025

Preservation system, Cryoinstant



Microbiological laboratories need a simple procedure to maintain important microorganisms rather than repetitive sub-culturing, which results in contaminated cultures, loss of viability and, even more importantly, loss of original characteristics by introducing biochemical and genetic changes. Cryoinstant consists of 25 porous beads in a vial filled with a broth containing glycerol. Microorganisms will bind to the porous surface of the beads. The excess broth is aspirated, then store the vials at temperatures down to -70°C in a freezer.

- Quick and easy to use
- Colour-coded
- Storage down to -70°C
- Quality controlled for fertility and sterility

Packaging: Cryoinstant is packed in shelf packs of 50 vials of 2 ml.

Description	Pk	Cat. No.
Cryoinstant, mixed	50	822070ZA
Cryoinstant, red	50	822071ZA
Cryoinstant, blue	50	822072ZA
Cryoinstant, green	50	822073ZA

Cleaning solution, IPASEPT 70®



Iso-propyl alcohol Ph. Eur. 70% V/V with purified water Ph.Eur. 30% V/V, filtered at 0,20 µm

For surface cleaning by spraying with or without wipes. Also for cleaning gloved hands before entrance into cleanrooms. Ideal for wiping down entrances to controlled environments.

- Filled under GMP conditions in cleanroom ISO class 7
- Certificate of analysis is available for each batch
- Fine stream for precise applications, or wide spray for covering large areas

Packaging: Packed in double dust-free bag; non irradiated bottles are not double wrapped.

Description	Pk	Cat. No.
IPASEPT 70, spray bottle, 6×1 l	6 l	93002.1016
IPASEPT 70, spray bottle, irradiated, 6×1 l	6 l	94006.1016

Sporicide, Minncare® Cold Sterilant

Minntech



Minncare® Cold Sterilant concentrate is an effective viricide, bactericide, fungicide, and sporicide for surface disinfection in pharmaceutical cleanroom environments. It is completely biodegradable and contains only pharmaceutical grade raw materials.

- Leaves no measurable air residue following ventilation of room
- Faster, safer, and less corrosive than aldehyde-based liquids
- EPA registered for fogging as part of normal cleaning and disinfecting procedures

Sporicide			
Description	Packed	Pk	Cat. No.
Minncare® Cold Sterilant	5 l	2	148-0062
Minncare® Cold Sterilant	10 l	2	148-0063

Test strips for determination of residue			
Description	For	Pk	Cat. No.
Minncare® residual test strips	quantitative measure of residuals in liquids	100	148-0065
Minncare® 1% concentration test strips	minimum 1% concentration of Minncare® in the prepared solution	100	148-0066

Sporicide, Actril® Cold Sterilant

Minntech



148-0106



148-0115

Actril® Cold Sterilant is a ready to use, effective, viricide, bactericide, fungicide, and sporicide for surface disinfection in pharmaceutical cleanroom environments. It is completely biodegradable and contains only pharmaceutical grade raw materials.

- No dilution required
- Faster, safer, and less corrosive than aldehyde-based liquids
- EPA registered for fogging as part of normal cleaning and disinfecting procedures

Sporicide

Description	Packed	Pk	Cat. No.
Actril® Cold Sterilant	1 l	6	148-0111
Actril® Cold Sterilant	5 l	2	148-0106

Sporicide Actril® CR

One of the safest, most effective ready-to-use sporicides is available in cleanroom packaging to make it easier to use in cleanroom settings. Actril® Cold Sterilant is a leading surface disinfectant in medical and cleanroom applications. Actril® Cold Sterilant complies with the USP guidelines for choosing disinfectants for aseptic areas. It is biodegradable, leaves no detectable residual on the surfaces and because of the unique method of disinfection, Actril® Cold Sterilant does not have to be part of a disinfectant rotation.

- Double Bagged
- EtO Processed (6 log reduction of *B. atrophaeus* spores)
- Packaged as 6x1 kg bottles with sprayers per case
- Complete lot traceability and documentation conforms to the pharma standards
- Bactericidal, mycobactericidal, fungicidal, virucidal and sporicidal

Description	Pk	Cat. No.
Actril® CR, Cold Sterilant	6	148-0115

Test strips for determination of residue

Description	For	Pk	Cat. No.
Actril® residual	quantitative measure of Actril residues in liquids	100	148-0104
Actril® Indicator	confirm Actril® is still conforming to its specification	500	141-0248



Equipment & Furniture 130

Test-Kits & Reagents 140

Q-PCR Kits & Reagents 146

PCR Supplies & Consumables 147

Electrophoresis 151

DNA Isolation 161

Molecular Microbiology

PCR workbenches, Captair® bio, Biocap™ DNA and DNA/RNA
Erlab



This workbench is designed for complete safety when working with specimens with a moderate risk of specimen contamination.

The bench top device is easy to mount on a laboratory workbench, or it can be used as a mobile unit on the optional Mobicap™ trolley.

It is small in size to reduce the risk of contamination, but still large enough to accommodate essential PCR equipment like pipettes, holders, mini-centrifuges, thermal cyclers etc.

The housing is ergonomically designed to allow a comfortable working posture (either standing or sitting).

- Inclined front panel and large door surface with clear, transparent side windows
- Openings are provided in the rear wall to allow instrument cables to pass through
- UV lamp with integral timer (5 to 30 minutes) for safe, efficient decontamination

Automatic switch-off system for the UV lamp if the user opens the bottom door during decontamination. A 10 mm thick acrylic glass pane provides reliable protection from UV B radiation.

Biocap™ DNA

Static inflow for operations with moderate risk of contamination, intended mainly for post-PCR work.

Biocap™ RNA/DNA

Includes a built-in H14 HEPA filter and laminar flow guide for tasks with a risk of contamination, such as pre-PCR, DNA and RNA tasks.

Model	Biocap DNA	Biocap DNA/RNA
Filter	-	H14 HEPA
Fan(s)	-	1
Noise level (dB(A))	-	55
UV lamp	15 W with timer	15 W with timer
Rounded work surface edges	Standard	Standard
Cable access to rear of cabinet	Standard	Standard

Delivery information: Delivered in kit form. Optional Mobicap™ trolley is equipped with a retractable interior surface for working in the seated position.

Description	W×D×H ext. (mm)	W×D×H int. (mm)	Pk	Cat. No.
Biocap™ DNA with UV	645×608×755	600×565×600	1	135-6576
Biocap™ RNA/DNA with laminar flow and UV	645×608×755	600×565×600	1	135-9231
Accessories				
Description			Pk	Cat. No.
Mobicap™ trolley			1	135-9151

UV PCR cabinets and workstations, UV3



Construction: stainless steel coated and acrylic panels

Multifeatured equipment for eliminating PCR contamination. PCR equipment brings together UV irradiation and antimicrobial stainless steel to create a dual-attack environment against PCR contamination. Filtered and sterilised air treated by the UV/HEPA system flows into the PCR chamber. Control potential PCR contamination with built-in UV to inactivate DNA between experiments. Shortwave UV can be used as a standard laboratory practice to reduce surface and airborne contaminants in the chamber.

The UV/HEPA units feature four-stage filters:

- Pre-filter helps to preserve the life of other filters by capturing large dust particles
 - Carbon-filter removes ozone, gases, odour and smoke
 - HEPA-filter provides a barrier (99,99%) against dust, bacterial and mould down to 0,3 µ particles
 - ZerOzone ozone catalyst grid reduces significant amounts of ozone, minimising the degrading effects of ozone on microarray data. The catalyst grid supplies a gentle airflow onto the sample work area. This airflow creates a working environment that helps to block entry of unwanted contaminants onto PCR samples.
- HEPA duct features antimicrobial coated stainless steel that resists bacteria growth
 - Side access with a slide out design makes changing filters and UV tube easy
 - Duct includes a shortwave (254 nm) ultraviolet tube for eliminating airborne microbes

Model	UV3 Cabinet	UV3 Workstation
Filter	Pre-filter Carbon filter HEPA filter ZerOzone catalyst grid	Pre-filter Carbon filter HEPA filter ZerOzone catalyst grid
UV lamp	254 nm	254 nm
Shelves	2 (small)	2 (small)

Delivery information: This equipment is not assembled for delivery.

Description	W×D×H ext. (mm)	Pk	Cat. No.
PCR Cabinet UV3	544×610×826	1	132-0684
PCR Workstation UV3	737×610×826	1	132-0685

UV inspection lamps, PL Compact series, 4 W
UVP



Robust, lightweight plastic

These compact UV lamps can be used as a handheld instrument and/or a bench top device in combination with an optional stand. Suitable for a wide range of uses. UV tubes and filters can be replaced simply and conveniently.

- For use in shortwave (254 nm) or longwave (365 nm) bands
- UVGL-15 offers a choice of wavelengths using the slideable selector
- UVGL-25 can be switched from short to longwave; UVGL-15 features UV multi-wave tube 254/365 nm
- UVGL-25 with 1×254 nm and 1×365 nm UV tube

W×D×H: 198×71×53 mm
Weight: 0,45 kg

Description	Pk	Cat. No.
UVGL-15 PL Compact UV lamp, split tube 365/254 nm with selector	1	732-0858
UVGL-25 PL Compact UV lamp, 1× 365 nm and 1× 254 nm	1	732-0859

Accessories and spare parts

Description	Pk	Cat. No.
Replacement shortwave (254 nm) UV tube, 4 W	1	733-2062
Replacement split (254/365 nm) UV tube, 4 W	1	630-0708

Thermal cyclers, Techne® TC-3000 series



The TC-3000 thermal cycler is a reliable personal cycler designed with research and teaching laboratories in mind.

- Can be connected to a PC via USB (except TC-3000) or RS232, and can be linked together with other Techne cyclers - up to 32 cyclers can be networked to one computer (requires Gensoft software, please enquire)
- Blocks are interchangeable and are available to order separately



TC-3000X 48-well personal thermal cycler

Based on the TC-3000, the TC-3000X is able to accommodate either 48x0,2 ml tubes, 30x0,5 ml tubes or one 48-well plate, making it ideal for laboratories with higher sample capacity.

- Footprint remains the same (561 cm²) but capacity is increased
- Heated lid can be adjusted for use with all PCR tubes, strip tubes or 48-well plates sealed with sealing mats
- Heating ramp rate of 3,3 °C/sec and 2,0 °C/sec cooling rate

Model	TC-3000X/02
Block homogeneity (°C)	±0,2
Display	4-line alphanumeric
Interfaces	USB
Lid temperature range (°C)	100...115
Temperature range (°C)	4...99
L×W×H (mm)	330×185×190
Password	Yes
Programmes	80
Ramp rate (°C/sec)	3,3
Sample capacity	48x0,2 ml

Description	Pk	Cat. No.
TC-3000X thermal cycler, 48x0,2 ml	1	731-0182

TC-3000G 48-well gradient thermal cycler

The TC-3000G gradient cycler holds half a 96-well plate in a horizontal format so that it offers eight columns for annealing temperature optimisation and six rows for optimising reagents such as MgCl₂ and primer concentrations. Annealing temperatures can be optimised over a 15 °C gradient between the temperatures of 20 °C and 80 °C.

- Gradient of up to 15 °C between 20 °C and 80 °C allows any protocol to be optimised within a single experiment
- Software enables a gradient to be added to any temperature step in the programme
- Gradient calculator function displays the temperature for each of the eight columns, ensuring easy replication of thermal conditions

Model	TC-3000G/02
Block homogeneity (°C)	±0,2
Display	4-line alphanumeric
Gradient temperature range (°C)	20...80
Interfaces	USB
Lid temperature range (°C)	100...115
Temperature range (°C)	4...99
L×W×H (mm)	330×185×190
Password	Yes
Programmes	80
Ramp rate (°C/sec)	3,3
Sample capacity	48x0,2 ml

Description	Pk	Cat. No.
TC-3000G gradient thermal cycler, 48x0,2 ml	1	731-0180

Thermal cyclers, Techne® TC-PLUS



The TC-PLUS thermal cyclers have all the latest features, from a colour touch screen to fast ramp rates along with some innovative additions, such as an automatic, non motorised heated lid, TERS™ (Thermal Energy Recovery System) and a unique, space-saving, stackable design. Each TC-PLUS can directly control up to 3 satellites or 9 via a USB hub. Additionally the satellites can also be controlled via a PC using the software supplied with every unit. The heated lid temperature can be set between 35 and 115 °C, or completely switched off; it also features auto-restart on power failure. TC-PLUS thermal cyclers are available with three gradient block options: 96x0,2ml, 60x0,5ml and 384-well plates.

- Colour touch screen for fast programme set-up
- TERS™ system saves on energy consumption
- Easy to use CD-type sample drawer mechanism, which provides the correct pressure for use with caps, domed or flat; and heat OR adhesive seals without the use of a motor
- Satellite option which can be controlled by either the TC-PLUS or a PC
- Tm calculator, which uses the Nearest Neighbour algorithm



Model	TC-PLUS/02	TC-PLUS/384	TC-PLUS SAT/02
Block homogeneity (°C)	<±0,3	<±0,3	<±0,3
Block accuracy (°C)	<±0,2	<±0,2	<±0,2
Temperature range (°C)	0...100	0...100	0...100
Lid temperature range (°C)	35...115	35...115	35...115
Gradient temperature range (°C)	Across full temperature range	Across full temperature range	Across full temperature range
Gradient span (max/min) (°C)	30...1	30...1	30...1
L×W×H (mm)	375×276×312	375×276×312	375×276×312
Sample capacity	96×0,2 ml microtubes	384-well plates	96×0,2 ml microtubes
Ramp rate (°C/sec)	5	5	5
Weight (kg)	14	14	14

Description	Pk	Cat. No.
Thermal cycler TC-PLUS/02, 96×0,2 ml	1	732-1271
Thermal cycler TC-PLUS/384, 384-well plates	1	732-1273
Satellite thermal cycler TC-PLUS SAT/02, 96×0,2 ml	1	732-1274

Thermal cyclers, Arktik™
Thermo Scientific



The Arktik™ cyclers suit the needs of a dynamic laboratory where reliability and user friendliness are appreciated. It accommodates three interchangeable blocks (for 96-well, dual 48-well and 384-well plates) allowing increased flexibility. The cycler is controlled through a simple user interface with graphical representation of the cycling routine, making navigation convenient. The USB port enables protocol transfer. The heated lid temperature can be manually adjusted and set between 30 and 110 °C, or completely switched off. The heated lid over-tightening protection system prevents the user from applying too much pressure.



- Excellent thermal precision
- Easily interchangeable heating blocks
- Multiple user option with the dual 48-well block
- Accepts almost any type of standard PCR plastics
- Low noise and auto restart on power failure

Model	TCA0001	TCA0002
Block accuracy (°C)	±0,3 °C at 90 °C	±0,3 °C at 90 °C
Block homogeneity (°C)	±0,4 °C at 90 °C	±0,4 °C at 90 °C
Temperature range (°C)	4 - 99,9	4 - 99,9
Lid temperature range (°C)	30 - 100	30 - 100
Gradient temperature range (°C)	30 °C max.	-
Ramp rate (°C/sec)	3,0	3,0
Power (W)	600	600
W×D×H (mm)	290×380×290	290×380×290
Weight (kg)	10,5	10,5

Ordering information: Purchase of a heat block is required for operation of the Arktik™ thermal cycler.

Description	Pk	Cat. No.
Thermal cycler, Arktik™, base with gradient (TCA0001)	1	731-0231
Thermal cycler, Arktik™, base without gradient (TCA0002)	1	731-0232

Blocks		
Description	Pk	Cat. No.
2×48-well dual heating block for Arktik™ thermal cycler	1	731-0234
96-well heating block for Arktik™ thermal cycler	1	731-0233

Thermal cyclers, Piko®
Thermo Scientific



The Piko® thermal cyclers deliver high performance in a compact package. They allow significant reductions in PCR run times and offer an ideal solution for both conventional and fast PCR applications. The Piko® thermal cyclers are available in two different block configurations: 24-well and 96-well. The ethernet port enables connection to a PC.



- Small footprint saves lab space and easily fits on lab bench
- Fast thermal cycling - average ramp rate 5 °C/second, PCR reactions in as little as 15 minutes
- Reduced plastic consumption and lower reagent cost due to low volumes - up to four 96-well Piko® PCR plates can be snapped into a single frame producing the equivalent of a standard 384-well plate
- Excellent thermal performance with reduced sample to sample variation
- Auto restart on power failure prevents loss of valuable reactions

Model	TCP0024	TCP0096
Block accuracy (°C)	±0,2	±0,2
Block homogeneity (°C)	±0,3	±0,3
Temperature range (°C)	4 - 99,9	4 - 99,9
Display	Backlit LCD	Backlit LCD
Ramp rate (°C/sec)	>5 heating, >4,5 cooling	>5 heating, >4,5 cooling
Power (W)	200	200
W×D×H (mm)	160×170×230	160×170×230
Weight (kg)	4 (including power supply and cord)	4 (including power supply and cord)

Description	Pk	Cat. No.
Thermal cycler, Piko®, 24-well system (TCP0024)	1	731-0235
Thermal cycler, Piko®, 96-well system (TCP0096)	1	731-0236

Real Time PCR system, PikoReal®
Thermo Scientific



The PikoReal® Real Time PCR system is light, quiet and has a small footprint, making it ideal for personal use. The PikoReal® system is available as a 24-well or 96-well instrument that fits PCR plates one quarter the size of a standard plate, while maintaining industry standards for well volume and well spacing. Due to its small size, low energy consumption and durable design, PikoReal® system is also suitable for field applications.



- Superior thermal performance - block design combined with precise temperature control ensures that quantification results are reliable and reproducible
- Five optical channels facilitate multiplexing of dyes
- Stand-alone or PC control which allows remote monitoring of any qPCR experiment

Thermal block	
Block formats	24-well, 96-well (not interchangeable)
Sample volume	10 - 50 µl (PikoReal® 24); 5 - 20 µl (PikoReal® 96)
Consumables	24-well Piko® PCR plates (¼ of a standard SBS 96-well plate), low profile strip tubes and PCR tubes; 96-well Piko® PCR plates (¼ of a standard SBS 384-well plate)
Max. heating rate	>5 °C/sec
Max. cooling rate	4,5 °C/sec
Temperature range	+4...99,9 °C
Temperature accuracy	±0,2 °C
Temperature uniformity	±0,3 °C at 95 °C; ±0,15 °C at 60 °C; ±0,2 °C at 72 °C
Heated lid	
Temperature range	30...100 °C
Control	Automatic temperature and pressure setting
Optics	
Excitation	5 LEDs
Excitation range	475 - 640 nm
Detection	CCD
Detection range	520 - 740 nm
Detection channels	5
Multiplex	Up to 4 targets
Dynamic range	11 orders of magnitude
Sensitivity	1 copy
Scan time for 4 multiplexing channels	<10 seconds
Software	
Analysis modes	Absolute quantification, relative quantification, melt curve analysis, allelic discrimination
System	
Operating systems	Windows XP, Windows 7
Communication	Ethernet (up to 10 instruments from a single PC) or USB
Power usage	Max. 200 W
W×D×H	300×230×310 mm
Weight	10 kg

Description	Pk	Cat. No.
PikoReal® 24 Real Time PCR system	1	731-0343
PikoReal® 96 Real Time PCR system	1	731-0344

Accessories		
Description	Pk	Cat. No.
Piko® plate illuminator	1	731-0358

Microplate heat sealer, ALPS™ 50V
Thermo Scientific



Heat sealing offers superior sample protection of storage and reaction plates in applications including compound storage, sample archiving and PCR. The ALPS™ 50V manual microplate heat sealer is designed to provide sealing consistency in low throughput applications.

- Provides secure, tight seals around individual wells eliminating sample loss through evaporation and cross-contamination between wells
- Compact and portable
- Simple touch pad controls adjust sealing temperature and time, and audible alarm indicates sealing completion
- Ergonomic counter lever handle design reduces operator effort and minimises strain
- Able to seal a wide range of plates of differing heights when supported by plate carriers (available separately)

Operating humidity range (%)	20 - 80% non condensing
Operating temperature range (°C)	18...30
Temperature set range (°C)	125 °C to 200 °C in 1 °C increments
Time set point range (s)	1 to 9 seconds in 0,5 second increments
W×D×H (mm)	220×321×425
Weight (kg)	7,2

Delivery information: Supplied with plate carrier for non skirted PCR plates (which is also available separately).

Description	Pk	Cat. No.
ALPS™ 50V	1	732-0996
Sealing films and foils, in sheets		
Description	Pk	Cat. No.
Thermo-Seal, 85×135 mm, 100 sheets	100	732-4820
Easy Pierce foil, 80×125 mm, 100 sheets	100	732-4866
Easy Pierce foil, 20 µm, 85×135 mm, 100 sheets	100	732-0840
Easy Peel, 85×135 mm, 100 sheets	100	732-4860
Clear Seal Diamond, 85×135mm, 100 sheets	100	732-4890
Clear Seal 3730, perforated, 85×135 mm, 100 sheets	100	732-0841
Clear Seal Strong, 85×135 mm, 100 sheets	100	732-0618
Accessories		
Description	Pk	Cat. No.
Plate carrier for non skirted PCR plates	1	731-0251
Plate carrier, 384-well	1	732-0380
Standard microtitre plate carrier	1	732-0393

Automated microplate heat sealer, ALPS™ 3000
Thermo Scientific



The ALPS™ 3000 microplate heat sealer is a fast, compact heat sealer created for optimal robotic integration in high throughput environments, whilst allowing manual, bench top control.



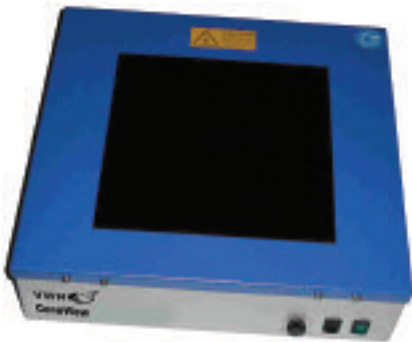
- Seals are top-loaded and easily accessible, with rapid plate sealing action
- Touch screen technology for easy operation and clear fault diagnosis
- Equipped with both on-board touch screen operation for bench top use and an RS232 port and included programming parameters for robotic integration
- Sensors detect the presence of sealing tape, microplate and air input, allowing automatic system shut-off to eliminate product waste, system hold-ups and potential injury
- Can be integrated with the majority of commercially available plate stackers

Air input pressure (psi/bar)	80 psi (5,5 bar) - 87 psi (5,7 bar)
Air requirement (l/min)	50
Operating temperature range (°C)	15...40
Sealing time (sec)	6 to 12 seconds per plate
Sealing temperature range (°C)	Ambient to 200 °C
Sealing plate height (mm)	8 - 46
W×D×H (mm)	185×414×350
Weight (kg)	12

Delivery information: Supplied with plate carrier for non skirted PCR plates, 3 plate carrier inserts, anti-surge fuses, 2 vacuum cups, 3 m air line, film loading tool, RS232 communications cable, power cable and operation manual.

Description	Pk	Cat. No.
ALPS™ 3000	1	731-0201
Sealing films and foils, in rolls		
Description	Pk	Cat. No.
Easy Pierce foil, 78 mm×610 m	1	732-0844
Easy Peel foil, 78 mm×610 m	1	732-0845
Clear Seal 3730, 78 mm × 610 m	1	732-0846
Clear Seal Strong, 78 mm×610 m	1	731-0240
Accessories		
Description	Pk	Cat. No.
Foil stripper	1	293-2113

UV transilluminators, GenoView



All GenoView transilluminators have variable intensity settings and even illumination. A 302 nm transilluminator is supplied as standard with each GenoPlex system.

- Choice of filter sizes
- Variable intensity setting
- Safety cut-off
- Slides out of darkroom for easy access to surface

Description	Pk	Cat. No.
UV transilluminators for use with GenoMini and GenoSmart2		
UV transilluminator, 200×200 mm, 254 nm	1	730-1384
UV transilluminator, 200×200 mm, 302 nm	1	730-1382
UV transilluminator, 200×200 mm, 365 nm	1	730-1383

Accessories		
Description	Pk	Cat. No.
Lid for single wavelength UV transilluminators (all sizes)	1	730-1348

Gel documentation system, GenoMini



The GenoMini offers reproducible, high resolution digital images for gel documentation. The system is easy to use and allows real time images to be captured and viewed directly on a PC or laptop.

The GenoMini is used with a UV transilluminator that provides illumination from below the gel (the usual configuration for looking at Ethidium Bromide DNA gels). Other options include the use of transmitted white or blue light and, with a mini darkroom, overhead white and UV light. These flexible lighting options make the GenoMini suitable for generating images of a wide range of fluorescent samples.

Using the GenoMini it is possible to produce images of electrophoresis gels stained with any of the following dyes: Ethidium Bromide, Coomassie Blue, Silver Stain, SYBR® Gold, SYBR® Green, SYBR® Safe, GelStar®, SYPRO® Red, SYPRO® Ruby, SYPRO® Orange, Fluorescein, Rhodamine Red™, Texas Red™, Pro-Q® Diamond or Deep Purple™. As new dyes are released we work to optimise their use with the GenoMini, so please ask your VWR contact for updates.

GenoMini is also suitable for viewing and capturing images from agar plates of dark, light or two colour colonies, cells in flasks, autoradiographs, DNA, RNA or protein on membranes, spot and slot blots of DNA, RNA or protein, cells or solutions in microtitre plates and DNA or protein macroarrays.

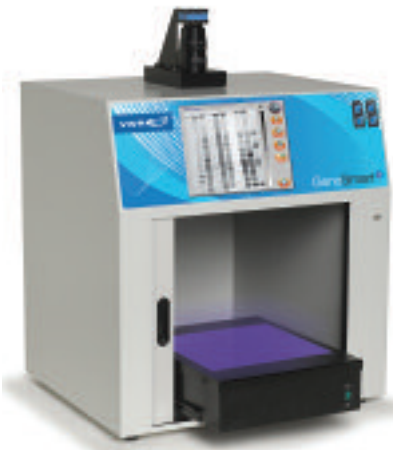
GenoMini is the ideal system for laboratories on a limited budget, as the basic system can be purchased and then added to with options such as a UV transilluminator, white light transilluminator or conversion screen, safety hood, mini darkroom and printer.

- Digital camera with 10 mega-pixel resolution produces high definition images
- Hardware and software options allow the system to be cost-effectively upgraded as fluorescent applications change
- PC interface allows easy automation of image viewing and camera control
- Simple zoom and auto-focus functions to rapidly capture gels of any size

Note: SYBR, SYPRO, Pro-Q, Rhodamine Red and Texas Red are trademarks of Molecular Probes Inc., GelStar is a trademark of FMC Corporation, and Deep Purple is a trademark of Amersham Biosciences Ltd.

Description	Pk	Cat. No.
GenoMini gel documentation system	1	730-3002

Gel documentation system, GenoSmart2



The GenoSmart2 is a compact imaging system with manual control that is simple to use and is ideal for routine DNA and protein gel documentation. The GenoSmart2 has network capability using an Ethernet connection. This easy to upgrade system is supplied complete with GenoSoft analysis software. Gel images can be instantly printed or saved to a memory stick via the USB port for archiving or further processing.

Using the GenoSmart2 it is possible to produce images of electrophoresis gels stained with any of the following dyes: Ethidium Bromide, Coomassie Blue, Silver Stain, SYBR® Gold, SYBR® Green, SYBR® Safe, GelStar®, SYPRO® Red, SYPRO® Ruby, SYPRO® Orange, Fluorescein, Rhodamine Red™, Texas Red™, Pro-Q® Diamond or Deep Purple™. As new dyes are released we work to optimise their use with the GenoSmart2, so please ask your VWR contact for updates.

GenoSmart2 is also suitable for viewing and capturing images from agar plates of dark, light or two colour colonies, cells in flasks, autoradiographs, DNA, RNA or protein on membranes, spot and slot blots of DNA, RNA or protein, cells or solutions in microtitre plates and DNA or protein macroarrays.

This simple system requires little training.

- Real time images from 12/16 bit, 2 mega pixel camera
- Self-contained, microprocessor controlled darkroom
- Integrated colour LCD screen for image viewing
- Instant on-screen saturation detection
- Rapid photographic print production and secure image storage via USB memory stick or network connection

Description	Pk	Cat. No.
GenoSmart2 gel documentation system	1	730-1381
Accessories		
Description	Pk	Cat. No.
Thermal paper, glossy	1 Roll	733-2000

Gel documentation and analysis systems, GenoPlex and GenoPlex CHEMI



GenoPlex high resolution gel documentation and analysis systems are available in configurations suitable for all fluorescence and chemiluminescence applications. All models are fitted with a digital CCD camera (1,4, 2 or 5 mega pixels) which utilises the latest USB technology. GenoPlex offers a choice of camera resolution options, with a 12-bit camera that can be software modified to 16-bit. The GenoPlex CHEMI systems are equipped with a true 16-bit advanced cooled camera able to capture images of a wide range of chemiluminescent samples using common substrates.

The GenoPlex systems are fully computer controlled, with motor driven lenses as standard in both systems, with feedback as standard for GenoPlex CHEMI. The darkroom, fully light-tight and suitable for advanced chemiluminescent applications, has a robust, wide opening hinged door for easy access to the chamber and electronic auto-door lock with security function to prevent interruption during long exposures.

The GenoPlex systems incorporate advanced image capture software specifically developed to simplify the process of capturing gel images. GenoCapture image acquisition software is a fully automatic package that controls camera integration, exposure, lens and capture options with auto-focus configuration for precise focusing.

GenoSoft is an advanced, automated, analysis software that can rapidly analyse a gel from loading to output of results in a matter of seconds. Requiring minimal user training, GenoSoft is able to handle a wide range of media including gels, plates, films and spot blots.

- Modular system can be tailored to meet specific user requirements
- Automated PC control speeds up image capture and the analysis process
- 16-bit performance for very accurate gel data
- Auto-locking door protects against accidental UV exposure and large door opening provides easy access for gel positioning and viewing
- Optional motor driven optics and lighting options for easy system set-up and flexible imaging applications

Delivery information: The GenoPlex system includes a 12-bit digital CCD camera (16-bit file depth), motorised zoom lens, and UV filter (550 to 640 nm). The GenoPlex CHEMI systems include a 16-bit cooled digital CCD camera, motorised zoom lens with feedback, and 7-position motor driven filter wheel. All systems include a cabinet, UV transilluminator (312 nm*) with 20×20 cm filter size, visible light converter, white epi-light (overhead), GenoSoft analysis and GenoCapture image capture software, cables and support software pack.

Description	Pk	Cat. No.
GenoPlex2 gel documentation and analysis system, 2 MP	1	730-1379
GenoPlex5 CHEMI gel documentation and analysis system, 5 MP	1	730-1380

* Other transilluminator wavelengths and combinations are available.

Accessories		
Description	Pk	Cat. No.
Thermal paper, glossy	1 Roll	733-2000

PCR DNA detection kits, QuickBlue

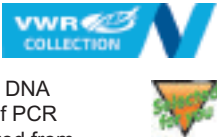


Within hours the QuickBlue kits detect microorganisms in food samples and other matrices with PCR. Tests for species exhibiting an allergenic potential as well as authenticity testing can be performed rapidly and precisely. The analysis should be preceded by a suitable microbial enrichment.

- The analysis takes only 5 hours, a detection of pathogenic microorganisms like Salmonella or Listeria is achievable within 24 hours
- Well established and judicially accepted
- In accordance with international standards like ISO20838-2006 and §64 of the German Food and Feed Law (LFGB)

Description	Pk	Cat. No.
QuickBlue Bos taurus (cattle) PCR Kit	50 Tests	710-3296
QuickBlue Campylobacter PCR Kit	50 Tests	710-3221
QuickBlue Campylobacter PCR Kit	250 Tests	710-3222
QuickBlue Campylobacter PCR Kit	1000 Tests	710-3223
QuickBlue Clostridium perfringens PCR Kit	50 Tests	710-3224
QuickBlue Clostridium perfringens PCR Kit	250 Tests	710-3225
QuickBlue Clostridium perfringens PCR Kit	1000 Tests	710-3226
QuickBlue Clostridium spec. PCR Kit	50 Tests	710-3218
QuickBlue Clostridium spec. PCR Kit	250 Tests	710-3219
QuickBlue Clostridium spec. PCR Kit	1000 Tests	710-3220
QuickBlue E. coli PCR Kit	50 Tests	710-3227
QuickBlue E. coli PCR Kit	250 Tests	710-3228
QuickBlue E. coli PCR Kit	1000 Tests	710-3229
QuickBlue EHEC PCR Kit	250 Tests	710-3231
QuickBlue EHEC PCR Kit	1000 Tests	710-3232
QuickBlue Legionella pneumoph. PCR Kit	50 Tests	710-3251
QuickBlue Listeria monocytogenes PCR Kit	250 Tests	710-3207
QuickBlue Listeria monocytogenes PCR Kit	1000 Tests	710-3208
QuickBlue Listeria spec. PCR Kit	50 Tests	710-3203
QuickBlue Listeria spec. PCR Kit	250 Tests	710-3204
QuickBlue Listeria spec. PCR Kit	1000 Tests	710-3205
QuickBlue Pseudomonas aeruginosa PCR Kit	50 Tests	710-3272
QuickBlue Salmonella PCR Kit	250 Tests	710-3201
QuickBlue Salmonella PCR Kit	1000 Tests	710-3202
QuickBlue Staph. aureus PCR Kit	50 Tests	710-3254
QuickBlue Staph. epidermidis PCR Kit	250 Tests	710-3267
QuickBlue Staph. epidermidis PCR Kit	1000 Tests	710-3268

Taq DNA polymerase



VWR *Taq* DNA polymerase is an ultra-pure, thermostable, recombinant DNA polymerase, which provides robust PCR performance in a wide range of PCR applications, without time-consuming optimisation. The enzyme is isolated from *Thermus aquaticus* and has a molecular weight of approximately 94 kDa. VWR *Taq* DNA polymerase has both a 5' and 3' DNA polymerase and a double strand 5' to 3' exonuclease activity. It leaves an A overhang, which makes the enzyme ideal for TA cloning. Red *Taq* DNA polymerase is a blend of *Taq* DNA polymerase combined with an inert red dye. The dye enables quick visual recognition of reactions to which enzyme has been added, as well as confirmation of complete mixing.

- Most suitable choice for routine applications
- High performance, thermostable DNA polymerase
- Ideal for rich amplifications
- Optimal for TA cloning

Taq DNA polymerase concentration: 5 Units/μl

10X Key Buffer: Tris-HCL pH 8,5, (NH₄)₂SO₂, 15 mM MgCl₂, 1% Tween-20®

10X Extra Buffer: 100 mM Tris-HCL pH 8,3, 500 mM KCl, 15 mM MgCl₂, 1% Triton X-100

10X Mg-Free Key Buffer: Tris-HCL pH 8,5, (NH₄)₂SO₂, 1% Tween-20®

10X Mg-Free Extra Buffer: Tris-HCL pH 8,3, KCl, 1% Triton X-100

Delivery information: VWR *Taq* DNA polymerase is supplied with both Key Reaction Buffer and Extra Reaction Buffer.

Description	Pk	Cat. No.
Taq DNA polymerase, 10X Key Buffer (15 mM MgCl ₂), 10X Extra Buffer (15 mM MgCl ₂), 25 mM MgCl ₂	250 EU	733-1300
Taq DNA polymerase, 10X Key Buffer (15 mM MgCl ₂), 10X Extra Buffer (15 mM MgCl ₂), 25 mM MgCl ₂	500 EU	733-1301
Taq DNA polymerase, 10X Key Buffer (15 mM MgCl ₂), 10X Extra Buffer (15 mM MgCl ₂), 25 mM MgCl ₂	1.000 EU	733-1302
Taq DNA polymerase, 10X Key Buffer (15 mM MgCl ₂), 10X Extra Buffer (15 mM MgCl ₂), 25 mM MgCl ₂	2.500 EU	733-1819
Taq DNA polymerase, 10X Key Buffer (15 mM MgCl ₂), 10X Extra Buffer (15 mM MgCl ₂), 25 mM MgCl ₂	5.000 EU	733-1820

Description	Pk	Cat. No.
Taq DNA polymerase, 10X Key Buffer (15 mM MgCl ₂), 10X Extra Buffer (15 mM MgCl ₂), 25 mM MgCl ₂	10.000 EU	733-1303
Taq DNA polymerase, 10X Tween-free Key Buffer, 10X Triton-free Extra Buffer, 25 mM MgCl ₂	1.000 EU	733-1307
Taq DNA polymerase, 10X Tween-free Key Buffer, 10X Triton-free Extra Buffer, 25 mM MgCl ₂	10.000 EU	733-1823
Taq DNA polymerase, 10X MgCl ₂ -free Key Buffer, 25 mM MgCl ₂	500 EU	733-1311
Taq DNA polymerase, 10X MgCl ₂ -free Key Buffer, 25 mM MgCl ₂	1.000 EU	733-1312
Taq DNA polymerase, 10X Key Buffer (20 mM MgCl ₂), 10X Extra Buffer (20 mM MgCl ₂), 25 mM MgCl ₂	1.000 EU	733-1826
Red Taq DNA polymerase, 10X Key Buffer (15 mM MgCl ₂), 10X Extra Buffer (15 mM MgCl ₂), 25 mM MgCl ₂	2.500 EU	733-1323
Red Taq DNA polymerase, 10X Key Buffer (15 mM MgCl ₂), 10X Extra Buffer (15 mM MgCl ₂), 25 mM MgCl ₂	10.000 EU	733-1834
Taq DNA polymerase, 10X glycerol-free Extra Buffer, 25 mM MgCl ₂	1.000 EU	733-1817
Taq DNA polymerase, 10X MgCl ₂ -free Extra Buffer, 25 mM MgCl ₂	500 EU	733-1304
Taq DNA polymerase, 10X MgCl ₂ -free Extra Buffer, 25 mM MgCl ₂	1.000 EU	733-1305
Taq DNA polymerase, 10X MgCl ₂ -free Key Buffer, 25 mM MgCl ₂	2.500 EU	733-1313
Taq DNA Polymerase 5U/µl Mg-free buffer, 10X Mg-free Key Buffer, 25 mM MgCl ₂	10.000 EU	733-2009

EU = Units

Taq DNA polymerase

5 PRIME

An ultra-pure, thermostable recombinant DNA polymerase offering the highest purity, reproducibility and processivity. The enzyme provides a thermostability that meets the requirements of specialised PCR applications. An initial incubation of 20 minutes at 95 °C before starting the PCR reaction does not significantly influence the activity of the enzyme.

- High yield and specificity
- Self adjusting Mg²⁺ buffer technology minimises PCR optimisation

Product comprises: Taq DNA polymerase (5 U/µl), 10X reaction buffer with Mg²⁺, and separate vial of 25 mM magnesium solution.

Description	Pk	Cat. No.
Taq DNA polymerase, 100 U (40 - 100 reactions of 50 µl)	100	733-0105
Taq DNA polymerase, 250 U (100 - 250 reactions of 50 µl)	250	733-0107
Taq DNA polymerase, 1000 U (400 - 1000 reactions of 50 µl)	1000	733-0180
Taq DNA polymerase, 5000 U (5×1000 U; 2000 - 5000 reactions of 50 µl)	5000	733-0991

PerfectTaq™ Plus DNA polymerase

5 PRIME



Easy to use enzyme for efficient and robust standard end point PCR applications without optimisation.

- High target yield and specificity - Hot Start enzyme with unique PCR buffer
- Time saving - storage at 4 °C eliminates the need for freeze-thaw cycles
- Convenience - optional loading dye allows for direct gel electrophoresis
- No PCR optimisation - one standardised protocol due to optimised buffer

Description	Pk	Cat. No.
PerfectTaq™ Plus DNA polymerase, sufficient for 40×50 µl reactions	50 EU	733-2065
PerfectTaq™ Plus DNA polymerase, sufficient for 200×50 µl reactions	250 EU	733-2066
PerfectTaq™ Plus DNA polymerase, sufficient for 800×50 µl reactions	1.000 EU	733-2067

illustra™ Hot Start Mix, Ready-To-Go™

GE Healthcare

Pre-formulated and pre-dispensed, freeze-dried PCR reagents mix including high quality PuReTaq™ DNA polymerase and a Hot Start activator protein, for increased specificity and reproducibility of PCR amplifications. The Ready-To-Go™ beads are provided in either 0,5 mL or 0,2 mL tubes that are compatible with most thermal cyclers.

- Recombinant Hot Start activator protein sequesters primers prior to PCR, effectively reducing non specific priming and primer-dimer formation
- Avoids the risk of contamination from a mammalian source associated with Hot Start antibodies
- Quick Hot Start activation preserves sample integrity by avoiding extensive pre-cycling heat treatment
- Long-term ambient-temperature-stable: no freezer space required; less energy consumption for shipping and storage
- Validated for real time PCR

Description	Pk	Cat. No.
illustra™ Hot Start Mix, Ready-To-Go™, 0,2 ml tubes, 96 reactions	96 Tests	28-9006-53
illustra™ Hot Start Mix, Ready-To-Go™, 0,5 ml tubes, 100 reactions	100 Tests	28-9006-46
illustra™ Hot Start Mix, Ready-To-Go™, 0,2 ml tubes, 5× 96 reactions	480 Tests	28-9006-54

dNTP



Ready to use molecular biology grade dNTP mixes and dNTP sets

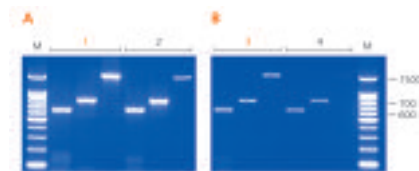


The dNTP mix is designed to save hands-on time for researchers and reduce the possibility of contamination by reducing pipetting. The dNTP solutions are also available in sets of four individual dNTP's, each 100mM. Both are convenient for use in DNA polymerisation reactions, DNA labelling and sequencing processes.

- Available either as pre-mixed 10 mM or 25 mM solutions, or as sets of individual 100 mM dNTP solutions
- Both pre-mixed and sets have been functionally tested in long PCR
- Purity >98% by HPLC
- Supplied in solution at pH 7,0

Description	Pk	Cat. No.
dNTP Mix, 10 mM of each dA, dC, dG, and dT, 2×500 µl	1.000 µl	733-1363
dNTP Mix, 25 mM of each dA, dC, dG, and dT, 2×1 ml	2.000 µl	733-1854
dNTP Set, separate vials of dA, dC, dG, dT, each 100 mM, 4×250 µl	1 SET	733-1364
dNTP Set, separate vials of dA, dC, dG, dT, each 100 mM, 16×250 µl	1 SET	733-1855

PerfectTaq™ DNA polymerase
5 PRIME



The PerfectTaq™ DNA polymerase kit provides the components and procedures necessary for efficient and robust standard end point PCR and RT-PCR applications without optimisation.

- Higher yields compared to other *Taq* DNA polymerases
- High sensitivity and specificity
- Time saving standardised protocols

Product comprises: PerfectTaq™ DNA polymerase (5 U/µl), 10X PCR buffer, 25 mM MgCl₂.

Description		Cat. No.
PerfectTaq™ DNA polymerase kit, 250 U (200 reactions of 50 µl)	250 EU	733-1767
PerfectTaq™ DNA polymerase kit, 250 U (800 reactions of 50 µl)	1.000 EU	733-1768

Taq DNA polymerase MasterMixes

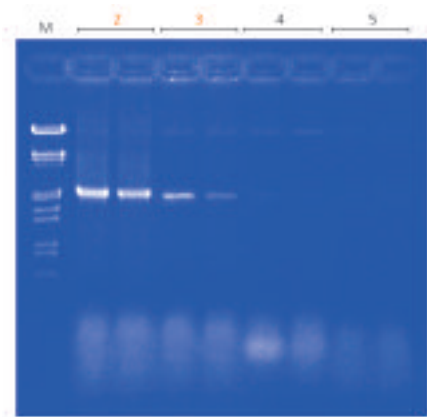


VWR *Taq* DNA polymerase MasterMix is a ready to use 1,1X or 2X reaction mix. Simply add primers, template and water to carry out primer extensions and other molecular biology applications. Red *Taq* DNA polymerase is a blend of *Taq* DNA polymerase combined with an inert red dye. The dye enables visual recognition of reactions to which enzyme has been added, as well as confirmation of complete mixing. Red *Taq* DNA polymerase can be directly loaded onto an agarose gel without addition of electrophoresis loading buffers.

Description	Pk	Cat. No.
<i>Taq</i> DNA polymerase 1,1X MasterMix, 1,5 mM MgCl ₂	500 Tests	733-2540
	2.500 Tests	733-1314
<i>Taq</i> DNA polymerase 1,1X MasterMix, 2,0 mM MgCl ₂	500 Tests	733-2541
	2.500 Tests	733-1315
Red <i>Taq</i> DNA polymerase 1,1X MasterMix, 1,5 mM MgCl ₂	500 Tests	733-2544
	2.500 Tests	733-1318
Red <i>Taq</i> DNA polymerase 1,1X MasterMix, 2,0 mM MgCl ₂	500 Tests	733-2545
	2.500 Tests	733-1319
<i>Taq</i> DNA polymerase 2X MasterMix, 1,5 mM MgCl ₂	500 Tests	733-2542
	2.500 Tests	733-1316
<i>Taq</i> DNA polymerase 2X MasterMix, 2,0 mM MgCl ₂	500 Tests	733-2543
	2.500 Tests	733-1317
Red <i>Taq</i> DNA polymerase 2X MasterMix, 1,5 mM MgCl ₂	500 Tests	733-2546
	2.500 Tests	733-1320
Red <i>Taq</i> DNA polymerase 2X MasterMix, 2,0 mM MgCl ₂	500 Tests	733-2547
	2.500 Tests	733-1321

Tests = Reactions

HotMaster *Taq* DNA polymerase
5 PRIME



Hot Start is a well established and convenient method to improve specificity of PCR. However, conventional technologies, like antibody mediated inhibition or chemical blocking of DNA polymerases, carry a few limitations - long initial activation steps may be required, the performance of the DNA polymerase can be reduced or specificity control may be compromised. 5 PRIME HotMaster *Taq* DNA polymerase uses an innovative technology to achieve Hot Start PCR. A thermostable inhibitor of the *Taq* DNA polymerase is released at high temperatures, thereby immediately activating the enzyme. The HotMaster technology not only provides Hot Start control at reaction set-up, but also Cold Stop during the annealing step of each cycle of PCR.

- Hot Start/Cold Stop technology requires no enzyme activation step making it ideal for fast PCR protocols
- Convenient room temperature reaction set-up
- Highly specific amplification
- Minimal optimisation with self adjusting Mg²⁺ buffer technology

Product comprises: HotMaster *Taq* DNA polymerase (5 U/μl) and 10X HotMaster *Taq* Buffer with 25 mM Mg²⁺.

Description	Pk	Cat. No.
HotMaster <i>Taq</i> DNA polymerase, 100 U (40 - 80 reactions of 50 μl)	100	733-0117
HotMaster <i>Taq</i> DNA polymerase, 250 U (100 - 200 reactions of 50 μl)	250	733-0118
HotMaster <i>Taq</i> DNA polymerase, 1000 U (400 - 800 reactions of 50 μl)	1000	733-0119
HotMaster <i>Taq</i> DNA polymerase, 5000 U (2000 - 4000 reactions of 50 μl)	5000	733-0992

AccuPOL DNA polymerase



AccuPOL DNA polymerase is a thermostable enzyme that possesses 3' to 5' exonuclease proofreading ability, which enables the polymerase to correct nucleotide misincorporation errors. AccuPOL is recommended for applications which require extremely high fidelity with low error rate. PCR fragments generated with AccuPOL DNA polymerase are also ideal for blunt end cloning.

Optimal reaction conditions are acheived by using the 10X AccuPOL standard buffer containing MgCl₂ provided with the enzyme. A separate vial of 25 mM MgCl₂ is also included in case a higher MgCl₂ concentration is required for a specific reaction.

- The choice for high fidelity amplifications
- Provides higher fidelity than *Taq* DNA polymerase
- Optimal for blunt end cloning
- Processes <3 kb with extremely high fidelity

Description	Pk	Cat. No.
AccuPOL DNA polymerase (2,5 U/μl), with 10X standard buffer, 25 mM MgCl ₂	250 EU	733-1324
AccuPOL DNA polymerase (2,5 U/μl), with 10X standard buffer, 25 mM MgCl ₂	500 EU	733-1325
AccuPOL DNA polymerase (2,5 U/μl), with 10X standard buffer, 25 mM MgCl ₂	1.000 EU	733-1326
AccuPOL DNA polymerase (2,5 U/μl), with 10X standard Tween®-free buffer, 25 mM MgCl ₂	250 EU	733-1328
AccuPOL DNA polymerase (2,5 U/μl), with 10X standard Tween®-free buffer, 25 mM MgCl ₂	1.000 EU	733-1329

EU = Units

illustra™ PuReTaq Ready-To-Go™ PCR beads
GE Healthcare

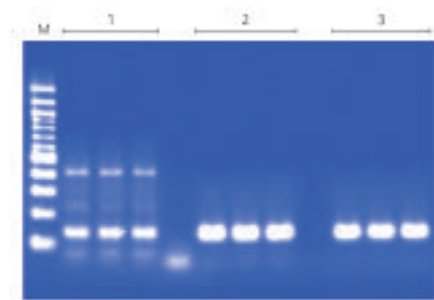


illustra™ PuReTaq Ready-To-Go™ PCR beads are designed for performing standard PCR. The only additional reagents are water, template DNA and primers. The beads are provided in either 0,5 ml or 0,2 ml tubes that are compatible with most thermal cyclers. The 0,2 ml tubes come assembled in a 96-well (8×12) plate format that allows individual strips of eight tubes to be easily removed. This flexibility allows use of either the entire 96-well plate, strips of eight, or individual 0,2 ml tubes.

- Pre-mixed, pre-dispensed reactions for PCR featuring high performance PuReTaq DNA polymerase
- Pre-formulated, pre-dispensed, single-dose, ambient-temperature-stable beads ensure greater reproducibility between reactions, minimise pipetting steps and reduce the potential for pipetting errors and contamination
- Use of PuReTaq DNA polymerase and other high purity reagents ensures that each bead is free of contaminating DNA
- Optimised for standard PCR, each bead yields a reaction containing ~2,5 units of PuReTaq DNA polymerase, 10 mM Tris-HCl, (pH 9,0 at room temperature), 50 mM KCl, 1,5 mM MgCl₂, 200 µM of each dNTP, stabilisers, and BSA

Description	Pk	Cat. No.
illustra™ PuReTaq Ready-To-Go™ PCR Beads (0,2 ml tubes/multiwell plate)	96 Tests	27-9557-01
illustra™ PuReTaq Ready-To-Go™ PCR Beads (0,2 ml tubes/multiwell plate), 5×96 reactions	480 Tests	27-9557-02
illustra™ PuReTaq Ready-To-Go™ PCR Beads (0,2 ml hinged tubes with cap)	96 Tests	27-9559-01
illustra™ PuReTaq Ready-To-Go™ PCR Beads (0,5 ml tubes)	100 Tests	27-9558-01

HotMasterMix
5 PRIME



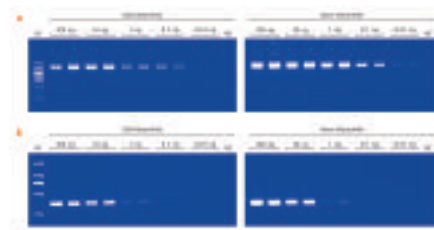
HotMasterMix is a ready to use 2,5X reagent mix for performing high throughput PCR (based on Hot Start/Cold Stop technology). The HotMasterMix guarantees the highest specificity and consistency. The key component of the mix is the HotMaster *Taq* DNA polymerase that consists of a pre-mixed HotMaster inhibitor that binds and blocks the substrate-binding site of HotMaster *Taq* in a temperature-dependent manner. At temperatures above 60 °C, the inhibitor is released and the HotMaster *Taq* becomes activated - Hot Start. At temperatures below 60 °C, the inhibitor inactivates the *Taq* polymerase - Cold Stop, preventing non specific primer annealing or primer-dimer formation. Unlike many conventional Hot Start PCR techniques, such binding-releasing equilibrium is reversible throughout the PCR cycle.

- Highly specific PCR
- Ready to use master mix format
- Convenient storage at 4 °C eliminates freeze and thaw cycles
- Minimal optimisation with self adjusting Mg₂⁺ buffer technology

Product comprises: *Taq* DNA polymerase (1,0 U/50 µl reaction), KCl, Mg₂⁺ and dNTPs.

Description	Pk	Cat. No.
HotMasterMix, 100 reactions 50 µl each	100 Tests	733-0120
HotMasterMix, 1000 reactions 50 µl each	1000 Tests	733-0121

MasterMix
5 PRIME



For robust amplification with minimal reaction set-up. This 2,5X MasterMix is ready to use and offers high reproducibility for large sample series. Because only primer and template need to be added to the 2,5X concentrate, MasterMix reduces the number of time consuming pipetting steps. This not only reduces the likelihood of errors and the risk of contamination, but also increases precision and sample throughput.

- Ready to use master mix format
- Minimal optimisation with self-adjusting Mg₂⁺ buffer technology
- Convenient 4 °C storage eliminates freeze and thaw cycles

Product comprises: *Taq* DNA polymerase (0,06 U/µl), nucleotides, 25 mM magnesium solution, 2,5X Reaction Buffer and Master *Taq* to ensure high yields and excellent stability of the reaction components.

Description	Pk	Cat. No.
2,5X MasterMix (2×1 ml), 100 reactions of 50 µl	100 Tests	733-0106
2,5X MasterMix (20×1 ml), 1000 reactions of 50 µl	1000 Tests	733-0113

MasterTaq kits
5 PRIME

MasterTaq kits are designed to ensure improved yield and reliable PCR products. The TaqMaster PCR enhancer (5X concentration) has been specifically developed to improve the amplification of difficult templates by stabilising the enzyme during the reaction process. TaqMaster PCR enhancer improves the thermostability of the *Taq* DNA polymerase and makes it less sensitive to exogenous PCR inhibiting contamination. Impure and GC-rich templates show increased yields and reproducible results.

Kit comprises: TaqMaster PCR enhancer (5X), *Taq* DNA polymerase (5 U/μl), reaction buffer (10X), and Mg₂⁺

Description	Pk	Cat. No.
MasterTaq kit, 250 U (100-250 reactions of 50 μl)	250	733-0114
MasterTaq kit, 1000 U (400-1000 reactions of 50 μl)	1000	733-0116

AccuStart™ Genotyping Toughmix®
Quanta Biosciences

AccuStart™ Genotyping ToughMix® is a 2X concentrated ready to use reaction cocktail for PCR amplification of DNA templates that overcomes inhibitors often present in crude samples extracted from environmental specimens, plant tissues, or animal tissues. It is a versatile and robust PCR reagent that provides highly specific and efficient amplification for genotyping sequence variants including allelic discrimination of single nucleotide polymorphisms (SNPs) using a variety of fluorogenic probe chemistries, including TaqMan® hydrolysis probes. AccuStart™ Genotyping ToughMix® contains all required reaction components, except primers, probes, and DNA template. The light blue colour of the AccuVue™ tracer dye simplifies reaction assembly in white, or clear, plates and helps to minimise pipetting or mixing errors. It does not interfere with reporter dye fluorescence or affect the stability of the product. AccuStart™ Genotyping ToughMix® is compatible with both fast and conventional PCR cycling protocols.

Kits are available with or without ROX reference dye. All kits comprise of 2X reaction buffer containing optimised concentrations of MgCl₂, dNTPs (dATP, dCTP, dGTP, dTTP), Hot Start DNA polymerase, AccuVue™ blue qPCR dye, and stabilisers.

Description	Pk	Cat. No.
AccuStart™ Genotyping Toughmix® without ROX		
AccuStart™ qPCR ToughMix®, 250×20 μl reactions (2×1,25 ml)	250 Assays	733-2101
AccuStart™ qPCR ToughMix®, 1250×20 μl reactions (10×1,25 ml)	1.250 Assays	733-2099
AccuStart™ qPCR ToughMix®, 5000×20 μl reactions (1×50 ml)	5.000 Assays	733-2100
AccuStart™ Genotyping Toughmix® with ROX		
AccuStart™ qPCR ToughMix®, ROX, 250×20 μl reactions (2×1,25 ml)	250 Assays	733-2104
AccuStart™ qPCR ToughMix®, ROX, 1250×20 μl reactions (10×1,25 ml)	1.250 Assays	733-2102
AccuStart™ qPCR ToughMix®, ROX, 5000×20 μl reactions (1×50 ml)	5.000 Assays	733-2103
AccuStart™ Genotyping Toughmix® with low ROX		
AccuStart™ qPCR ToughMix®, low ROX, 250×20 μl reactions (2×1,25 ml)	250 Assays	733-2107
AccuStart™ qPCR ToughMix®, low ROX, 1250×20 μl reactions (10×1,25 ml)	1.250 Assays	733-2105
AccuStart™ qPCR ToughMix®, low ROX, 5000×20 μl reactions (1×50 ml)	5.000 Assays	733-2106

Real-Time PCR detection kits for microorganisms, QuickBlue RealQuick

The RealQuick product range is optimised for real time PCR and uses Taqman® probe technology for the detection of human pathogenic bacteria. The kits are typically co-ordinated in such a way as to enable them to be used together in one run.

- Compatible with all major real time PCR instruments
- Excellent results with regard to specificity and sensitivity
- Compliant with ISO standard 20838:2006

Description	Pk	Cat. No.
QuickBlue RealQuick L. monocytogenes PCR kit	250 Tests	710-3324
QuickBlue RealQuick L. monocytogenes PCR kit	1000 Tests	710-3323
QuickBlue RealQuick L. pneumophila PCR Kit	50 Tests	710-3326
QuickBlue RealQuick L. pneumophila PCR Kit	250 Tests	710-3327
QuickBlue RealQuick salmonella PCR kit	50 Tests	710-3322
QuickBlue RealQuick salmonella PCR kit	250 Tests	710-3321

PerfeCTa® qPCR ToughMix™
Quanta Biosciences

PerfeCTa® qPCR ToughMix™ is a 2X concentrated ready to use reaction cocktail for PCR amplification of DNA templates that overcomes many known inhibitors of PCR often present in crude samples extracted from environmental specimens, plant tissues, or animal tissues. It is a versatile and robust real time qPCR reagent that provides maximum sensitivity and PCR efficiency with a variety of fluorogenic probe chemistries, including TaqMan® hydrolysis probes. PerfeCTa® qPCR ToughMix™ contains all required reaction components, except primers, probe(s), and DNA template. The light blue colour of the AccuVue™ tracer dye simplifies reaction assembly in white, or clear, plates and helps to minimise pipetting or mixing errors. It does not interfere with qPCR performance or affect the stability of the product.

A key component of PerfeCTa® qPCR ToughMix™ is an ultra-pure, highly processive thermostable DNA polymerase that is combined with high avidity monoclonal antibodies. This proprietary polymerase mix is highly resistant to PCR inhibitors and provides an extremely stringent automatic Hot Start allowing reaction assembly, and temporary storage, at room temperature prior to PCR amplification. PerfeCTa® qPCR ToughMix™ delivers exceptional performance with either fast or conventional PCR cycling protocols.

Delivery information: Kits are available with or without ROX reference dye. All kits comprise of 2X reaction buffer containing optimised concentrations of MgCl₂, dNTPs (dATP, dCTP, dGTP, dTTP), Hot Start DNA polymerase, AccuVue™ blue qPCR dye, and stabilisers.

Description	Pk	Cat. No.
PerfeCTa® qPCR ToughMix™ without ROX		
PerfeCTa® qPCR ToughMix®, 250×20 µl reactions (2×1,25 ml)	250 Assays	733-2092
PerfeCTa® qPCR ToughMix®, 1250×20 µl reactions (10×1,25 ml)	1.250 Assays	733-2090
PerfeCTa® qPCR ToughMix®, 5000×20 µl reactions (1×50 ml)	5.000 Assays	733-2091
PerfeCTa® qPCR ToughMix™ with ROX		
PerfeCTa® qPCR ToughMix®, ROX, 250×20 µl reactions (2×1,25 ml)	250 Assays	733-2095
PerfeCTa® qPCR ToughMix®, ROX, 1250×20 µl reactions (10×1,25 ml)	1.250 Assays	733-2093
PerfeCTa® qPCR ToughMix®, ROX, 5000×20 µl reactions (1×50 ml)	5.000 Assays	733-2094
PerfeCTa® qPCR ToughMix™ with low ROX		
PerfeCTa® qPCR ToughMix®, low ROX, 1250×20 µl reactions (10×1,25 ml)	1.250 Assays	733-2096
PerfeCTa® qPCR ToughMix®, low ROX, 5000×20 µl reactions (1×50 ml)	5.000 Assays	733-2097
PerfeCTa® qPCR ToughMix®, low ROX, 250×20 µl reactions (2×1,25 ml)	250 Assays	733-2098

PCR racks, 96-well



High resistance PP

Designed to accommodate 96 individual 0,2 ml tubes or 12 or 8 strips of 8 or 12 tubes

- Tube wells are easily identified by imprinted numbers and letters
- Removable, hinged lid

Colour: Natural, blue, green, yellow or assorted colours (one each of blue, green, pink, yellow and natural)

Description	Colour	Pk	Cat. No.
PCR rack, 96-well	Blue	1	211-3501
PCR rack, 96-well	Green	1	211-3502
PCR rack, 96-well	Natural	1	211-3504
PCR rack, 96-well	Assorted	5	211-3505

PCR racks, reversible



PP, with lid

Designed to hold 0,2, 0,5, or 1,5 ml tubes.

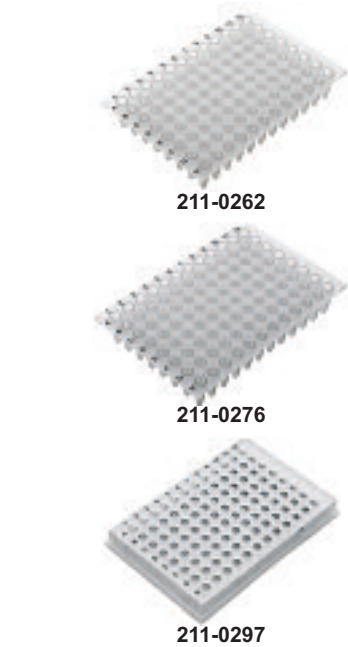
- PCR side of the rack has 168 wells that can hold 8-well or 12-well tube strips or one 0,2 ml tube per well
- Opposite side of the rack has 40 wells that can hold 0,5 ml tubes
- Both sides of the rack have 12 wells that can hold 1,5 ml tubes
- Simple to use, removable hinged lid snaps in place on either side of the rack

Ordering information: Assorted pack includes one each of blue, green, purple, yellow and orange

Description	Colour	Pk	Cat. No.
PCR rack	Natural	5	211-0199
PCR rack	Assorted	5	211-0198



PCR plates, 96-well



PP

These PCR plates are compatible with most thermal cyclers, including the Applied Biosystems 9600 and 9700, and the MJ Research PTC-100, and are ideal for high throughput screening thermal cycler applications.

- Smooth, thin, uniform well walls ensure accurate thermal transfer
- Plates are thin, flexible and easy to cut
- Lot tested and certified free of RNase, DNase and human DNA
- Printed alphanumeric labelling (on all except raised well plates) simplifies plate and sample identification

Working capacity: 200 µl

96-well PCR plates, flat

Colour	Pk	Cat. No.
Natural	100	211-0262

96-well PCR plates, low profile

Low profile plates with smaller wells.

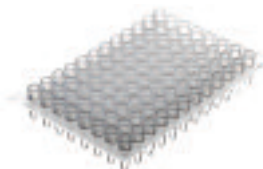
Colour	Pk	Cat. No.
Natural	100	211-0276

96-well PCR plates, skirted

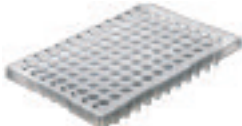
Reduced plate distortion during PCR and sit flat for greater stability.

Colour	Pk	Cat. No.
Natural	100	211-0297





211-0269



211-0283



211-0290

96-well PCR plates, raised well

Suitable for sealing with strip caps.

Colour	Pk	Cat. No.
Natural	100	211-0269

96-well PCR plates, half-skirted

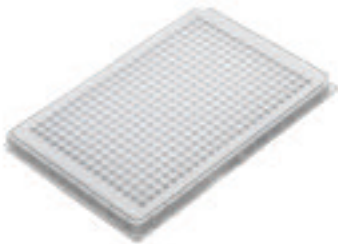
Easier to insert and extract from instrumentation.

Colour	Pk	Cat. No.
Natural	100	211-0283

96-well PCR plates, low profile, half-skirted

Colour	Pk	Cat. No.
Natural	100	211-0290
Assorted	100	211-0291

PCR plates, 384-well



PP

These PCR plates are compatible with most thermal cyclers and are ideal for high throughput screening thermal cycler applications.

- Smooth, thin, uniform well walls ensure accurate thermal transfer
- Wells are slightly raised to accommodate sealing mats, films or foils
- Plates are skirted to allow bar coding and include a frosted labelling area
- Lot tested and certified free of RNase, DNase and human DNA
- Printed alphanumeric labelling simplifies plate and sample identification

Working capacity: 25 µl

Colour	Pk	Cat. No.
Natural	100	211-0305



Real-Time PCR plates, 96-well



PP

These opaque black or white PCR plates and optically clear cap closures are suitable for Real-Time PCR applications. Plates are compatible with most thermal cyclers and are ideal for high throughput screening thermal cycler applications.

- Smooth, thin, uniform well walls ensure accurate thermal transfer
- Wells are slightly raised to accept optically clear strip caps or sealing film
- Plates are thin, flexible and easy to cut
- Lot tested and certified free of RNase, DNase and human DNA

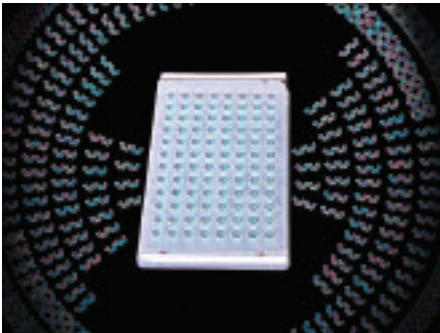
Working capacity: 200 µl

Description	Colour	Pk	Cat. No.
Flat PCR plate	White	100	211-0313
Half-skirted PCR plate	White	100	211-0315
Skirted PCR plate	White	100	211-0317

Accessories			
Description	Pk	Cat. No.	
Optically clear 8-strip caps for Real-Time PCR plates	125	211-0350	



Heat resistant films for PCR



PP

These heat resistant 50 µm thick films are designed for thermal cycling applications. Polypropylene films are not pierceable. For PCR applications where piercing with pipette tips or robotic probes is required for product recovery, use aluminium foil films. For Real-Time PCR applications where maximum optical clarity is required, use optically clear polyester films.

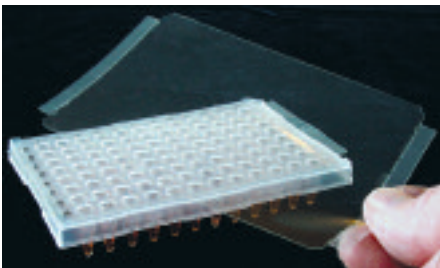
- Recommended for temperatures from -40 °C to +120 °C
- Certified DNase, RNase and nuclease-free

Each film L×D: 135,1×79,4 mm with sufficient sealing area for all PCR plates
Length with end-tabs removed: 123,1 mm

Description	Pk	Cat. No.
PP, non sterile	100	391-1254
PP, sterile	100	391-1255
Advanced PP films, non sterile*	100	391-1294

* stronger, thicker adhesive and cut to fit raised-rim plates

Ultra-clear heat resistant films for qPCR



Polyester

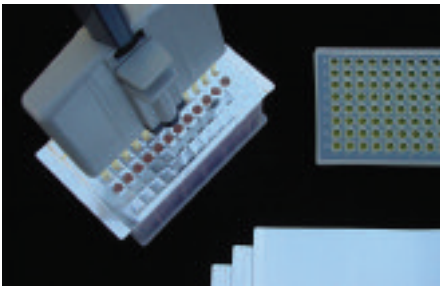
Transparent polyester films with strong, non absorbing, non fluorescing medical grade adhesive for superior performance in qPCR applications. Supplied non sterile.

- Recommended for temperatures from -40 °C to +120 °C
- Ultra-high optical clarity
- Certified DNase, RNase and nuclease-free

Each film L×D: 142,9×79,4 mm
Length with end-tabs removed: 121,9 mm

Description	Pk	Cat. No.
Optically clear 50 µm thick films	100	391-1258
Optically clear 50 µm thick films for raised rim plates	100	391-1295

Aluminium foils for PCR and cold storage



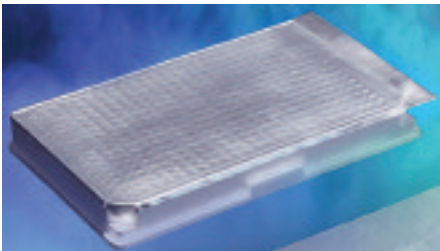
These soft non permeable 38 µm thick aluminium foils with strong medical-grade adhesive eliminate the need for heat-sealing devices or mats during thermal cycling. Compared to other aluminium foils, these foils have less tendency to roll back on themselves when removing the backing paper and fit well to the plate during application. Sterile product is packaged in tamper-evident bags of 25/bag.

- Recommended for temperatures from -80 °C to +120 °C
- Easily pierceable with pipette tips and robotic probes
- Excellent vapour barrier, virtually no sample evaporation
- Certified DNase, RNase and nuclease-free

Each foil L×D: 142,9×82,6 mm with sufficient sealing area for all PCR plates
Length with end-tabs removed: 125,4 mm

Description	Pk	Cat. No.
Aluminium foils, non sterile	100	391-1256
Aluminium foils, sterile	50	391-1257

Aluminium foils for cold storage



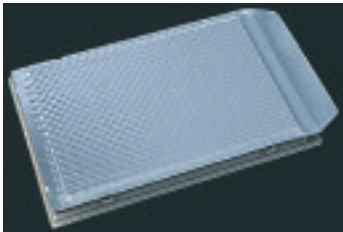
Aluminium foils with biologically inert adhesive. These foils are easily pierced by manual or automated pipette tips, for sample recovery without generation of aerosols or cross-contamination.

- Recommended for temperatures from -80 °C to +130 °C
- Not recommended for PCR

Each foil L×D: 133×82 mm

Description	Pk	Cat. No.
Aluminium foils, non sterile	100	391-1275
Aluminium foils, sterile	50	391-1296

Aluminium foils for PCR and storage (384-well plates)



Aluminium foils, 38 µm thick, for use with 384-well plates. These foils have one end tab with no perforation. Available non sterile only.

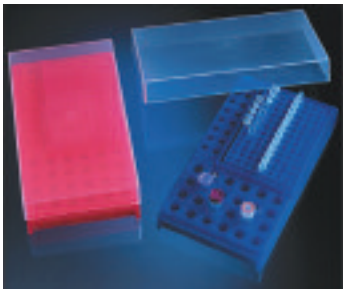
- Recommended for temperatures from -40 °C to +150 °C
- Certified DNase, RNase and nucleic acid-free

Each foil L×D: 137,3×82,6 mm, including single 13,5 mm end tab.



Description	Pk	Cat. No.
Aluminium foils for 384-well plates, non sterile	100	391-1281

PCR workstation



PP, with clear lid

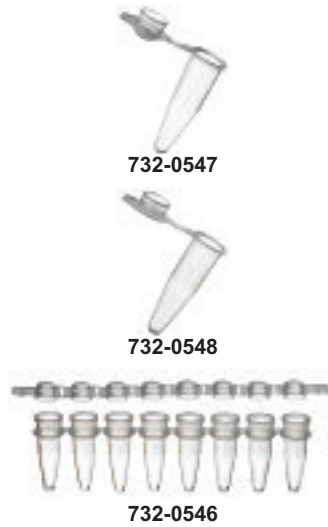
Ideal for preparing samples for cycling or working with completed procedures.

- Separate removable 96-well rack holds a plate, 0,2 ml tubes or 0,2 ml tube strips
- Additional wells on the workstation accommodate 0,5 ml, 1,5 ml or 2,0 ml tubes
- Autoclavable and freezable



Description	Pk	Cat. No.
PCR workstation	5	732-0810

PCR tubes and strips, 0,2 ml



PP

Designed to fit most popular brands of thermocycler.

- Lot tested and certified free from RNase, DNase and human DNA
- Autoclavable
- Available with domed or flat caps

Colour: Natural



Description	Capacity (ml)	Pk	Cat. No.
Individual PCR tubes, with attached domed caps	0,2	1.000	732-0547
Individual PCR tubes, with attached flat caps	0,2	1.000	732-0548
Low profile 8-tube strips for RT-PCR with individually attached, optically clear, flat caps	0,2	120	211-0339
PCR 8-tube strips, with individually attached domed caps	0,2	120	732-0545
PCR 8-tube strips, with attached domed cap strips	0,2	125	732-0546
PCR 12-tube strips, without caps	0,2	80	732-0552
PCR 12-tube strips, with separate domed cap strips	0,2	80	732-0554
PCR 8-tube strips for RT-PCR with individually attached, optically clear, hinged flat caps	0,2	125	211-0381

Accessories		
Description	Pk	Cat. No.
Strip caps for 12-well, 0,2 ml PCR tube strips	80	732-0553

Power supplies, Power Source



VWR Collection Power Source power supplies meet a wide range of applications, including DNA, RNA and protein electrophoresis, and blotting. Designed with safety in mind, they are loaded with the features that modern molecular biology applications demand.

Two models are available with voltage ranges to 300 V and current ranges to 3000 mA. Operating modes include constant voltage or constant current with automatic crossover. Operation can be timed or continuous.

The Power Source power supplies offer short circuit and over-current/over-voltage protection. No load and load change detection systems are incorporated into the software. Programming also includes an option for automatic recovery after a power failure.

Compact in design with a small footprint, the unit is also stackable to save space. For easy viewing and setting of parameters on the bench or on a shelf, the front of the power supply can be raised with the integral folding feet.

- Meets a wide range of applications
- Constant voltage or constant current with automatic crossover
- Timed or continuous operation
- Four sets of colour-coded output terminals
- Compact design with small footprint

Model	300 V	250 V
Output voltage range/increments (V)	2 - 300/1	5 - 250/1
Output current range/increments (mA)	4 - 500/1	10 - 3000/10
Output power range/increments (W)	90 max/not applicable	1 - 300/1
Operating constant modes	Current, voltage	Current, voltage, power
Timer	1 - 999 minutes or continuous	1 - 99 h 59 or continuous
Programmable	No	Yes
W×D×H (mm)	190×250×80	190×250×80
Weight (kg)	2,2	2,5
Input voltage (V)	230	230

Description	Pk	Cat. No.
Power Source power supply, 300 V, EU-plug	1	700-0112
Power Source power supply, 300 V, UK-plug	1	700-0113
Power Source power supply, 300 V, CH-plug	1	700-0114
Power Source power supply, 250 V, EU-plug	1	700-0115
Power Source power supply, 250 V, UK-plug	1	700-0116
Power Source power supply, 250 V, CH-plug	1	700-0117

Horizontal electrophoresis systems, kuroGEL



The kuroGEL range of horizontal electrophoresis units are ideal for screening and analysis of a wide range of samples, including PCR products, DNA mini-preps, plasmid vectors and restriction fragments. The compact size of the Mini and Mini Plus models optimises gel conditions allowing fast resolution of nucleic acids. Midi units accommodate standard gels for medium throughput analysis and the preparation of nucleic acids. Maxi and Maxi Plus units are available in standard and cooled formats and are designed for the rapid, medium-to-high throughput screening of nucleic acids, such as HLA typing in population genetics studies. All models are supplied complete with tank, casting tray, 1 mm thick combs and coloured loading strips.

- Robust acrylic tank construction with 12 mm thick walls
- Safety lid with integral power leads compatible with low to medium voltage power supplies
- Durable, high impact polystyrene combs
- Colour coded combs corresponding to 1,0, 1,5 and 2,0 mm thicknesses



kuroGEL Mini 6 Horizontal

The kuroGEL Mini 6 Horizontal is ideal for routine preparatory and analytical electrophoresis techniques.

- Short 6 cm gel length for rapid separations
- Coloured loading strips for easy well detection when loading
- Compact tank reduces the buffer volume required to cover the gel, providing greater control over the voltage gradient and run time
- UV transparent acrylic casting tray allows the user to handle the gel on the transilluminator with minimum risk of exposure to hazardous ethidium bromide
- Side handles allow safe and easy transportation around the laboratory

Buffer volume (ml)	325
Gel size W×L (mm)	60×75
Sample capacity	32
Unit W×L×H (mm)	130×240×65
Recommended running voltage (V)	70 - 90
Power output shrouded, connectors (Ø mm)	4

Delivery information: Gel tank supplied with removable casting tray; 2×1.0 mm thick, eight-sample combs; and coloured loading strips.

Description	Pk	Cat. No.
Horizontal gel unit, kuroGEL Mini 6, 6×7,5 cm	1	700-0015



kuroGEL Mini Plus 10 Horizontal

The kuroGEL Mini Plus 10 Horizontal is ideal for routine preparatory and analytical electrophoresis techniques.

- Coloured loading strips for easy well detection when loading
- Compact tank reduces the buffer volume required to cover the gel, providing greater control over the voltage gradient and run time
- UV transparent acrylic casting tray allows the user to handle the gel on the transilluminator with minimum risk of exposure to hazardous ethidium bromide
- Side handles allow safe and easy transportation around the laboratory

Buffer volume (ml)	450
Gel size W×L (mm)	100×115
Sample capacity	80
Unit W×L×H (mm)	165×230×65
Recommended running voltage (V)	75 - 125
Power output shrouded, connectors (Ø mm)	4

Delivery information: Gel tank supplied with removable casting tray; 2×1.0 mm thick, 16-sample combs; and coloured loading strips.

Description	Pk	Cat. No.
Horizontal gel unit, kuroGEL Mini Plus 10, 10×11,5 cm	1	700-0034



kuroGEL Midi 13 Horizontal

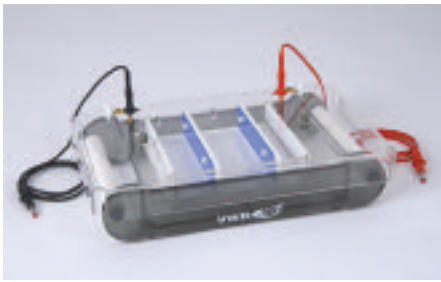
The kuroGEL Midi 13 Horizontal gel electrophoresis unit is ideal for analytical and preparative studies of nucleic acids.

- Buffer recirculation ports that can be connected to a peristaltic pump for buffer recirculation during electrophoresis to maintain buffer pH and prevent ionic gradient formation
- Coloured loading strips, for easy well detection when loading
- Compact tank, reduces the buffer volume required to cover the gel, providing greater control over the voltage gradient and run time
- UV-transparent acrylic casting tray, allowing the user to handle the gel on the transilluminator with minimum risk of exposure to hazardous ethidium bromide
- Side handles, for safe and easy transportation around the laboratory

Buffer volume (ml)	900
Gel size W×L (mm)	128×150
Sample capacity	112
Unit W×L×H (mm)	200×320×70
Recommended running voltage (V)	100 - 125
Power output shrouded, connectors (Ø mm)	4

Delivery information: Gel tank supplied with removable casting tray; 2×1.0 mm thick, 16-sample combs; coloured loading strips and buffer recirculation ports

Description	Pk	Cat. No.
Horizontal gel unit, kuroGEL Midi 13, 12, 8×15 cm	1	700-0056



kuroGEL Midi Plus 15 Horizontal

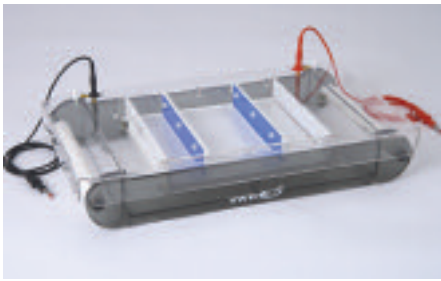
The kuroGEL Midi Plus 15 Horizontal standard gel electrophoresis unit provides the most popular comb throughput and tray-size options, but with additional casting options.

- Multichannel pipette compatible combs, with a maximum 30-sample throughput, reduce gel loading time, while preparatory combs enable nucleic acids to be scaled-up for cloning
- Buffer recirculation ports can be connected to a peristaltic pump for buffer recirculation during electrophoresis to maintain buffer pH and prevent ionic gradient formation
- Coloured loading strips for easy well detection when loading
- UV-transparent acrylic casting tray allows the user to handle the gel on the transilluminator with minimum risk of exposure to hazardous ethidium bromide
- Side handles, for safe and easy transportation around the laboratory

Buffer volume (ml)	1200
Gel size W×L (mm)	150×150
Sample capacity	120
Unit W×L×H (mm)	215×335×70
Recommended running voltage (V)	100 - 125
Power output shrouded, connectors (Ø mm)	4

Delivery information: Gel tank supplied with removable casting tray; 2×1.0 mm thick, 16-sample combs; coloured loading strips and buffer recirculation ports

Description	Pk	Cat. No.
Horizontal gel unit, kuroGEL Midi Plus 15, 15×15 cm	1	700-0082



kuroGEL Maxi 20 Horizontal

The kuroGEL Maxi 20 Horizontal gel electrophoresis unit is ideal for high resolution analytical and preparative studies of nucleic acids. Large format, 20×20 cm, gel tray is ideal for high resolution techniques, such as screening PCR products and RFLP analysis.

- Multichannel pipette compatible combs, with a maximum 42-sample throughput reduce gel-loading time
- Buffer recirculation ports can be connected to a peristaltic pump for buffer recirculation during electrophoresis to maintain buffer pH and prevent ionic gradient formation
- Coloured loading strips for easy well detection when loading
- UV-transparent acrylic casting tray allows the user to handle the gel on the transilluminator with minimum risk of exposure to hazardous ethidium bromide
- Side handles, for safe and easy transportation around the laboratory

Buffer volume (ml)	2200
Gel size W×L (mm)	200×200
Sample capacity	168
Unit W×L×H (mm)	270×475×80
Recommended running voltage (V)	150 - 175
Power output shrouded, connectors (Ø mm)	4

Delivery information: Gel tank supplied with removable casting tray; 2×1.0 mm thick, 16-sample combs; coloured loading strips and buffer recirculation ports

Description	Pk	Cat. No.
Horizontal gel unit, kuroGEL Maxi 20, 20×20 cm	1	700-0136



kuroGEL Maxi Plus 25 Horizontal

The kuroGEL Maxi-Plus 25 Horizontal gel electrophoresis unit is ideal for high throughput analysis of nucleic acids. Large format, 25×30 cm, gel tray is ideal for high throughput techniques, such as HLA typing and screening PCR products.

- Multichannel pipette compatible combs, with a maximum 52-sample throughput, allow samples to be loaded quickly and easily from 96- and 384-well thermal cycler blocks
- Buffer recirculation ports can be connected to a peristaltic pump for buffer recirculation during electrophoresis to maintain buffer pH and prevent ionic gradient formation
- Coloured loading strips, for easy well detection when loading
- UV-transparent acrylic casting tray allows the user to handle the gel on the transilluminator with minimum risk of exposure to hazardous ethidium bromide
- Side handles for safe and easy transportation around the laboratory

Buffer volume (ml)	3000
Gel size W×L (mm)	250×300
Sample capacity	624
Unit W×L×H (mm)	330×560×90
Recommended running voltage (V)	150 - 200
Power output shrouded, connectors (Ø mm)	4

Delivery information: Gel tank supplied with removable casting tray; 6×1.0 mm thick, 16-sample combs; coloured loading strips and buffer recirculation ports.

Description	Pk	Cat. No.
Horizontal gel unit, kuroGEL Maxi Plus 25, 25×30 cm	1	700-0154

Horizontal electrophoresis systems, shiroGEL



Designed for ease of use and safe operation, the shiroGEL horizontal electrophoresis systems and accessories are built to withstand the rigours of everyday use. For leakproof performance the gel boxes and gel trays are moulded from thick acrylic. UV transparent gel trays aid in visualisation of samples. Cassettes protect the electrodes and allow for easy replacement. Gel casting is simple with the durable rubber casting gates. Slots in the sides of the trays allow for easy comb placement. The two piece design of the combs provides for vertical adjustment, giving the user control over the depth of the well. The combs supplied with the systems are 1,5 mm thick. Multiple combs, including those compatible with multichannel pipettes and different thicknesses, are also available. The 'EasyLift' gel box lid is easily removed using the

side tabs and pressure pads. The lid is domed, to prevent condensation from dripping onto the gel, and is surrounded by a drip ring, to help recover the condensate and maintain buffer concentration.

- Moulded, durable construction
- Rubber gates for tapeless gel casting
- 'EasyLift' safety lid with buffer recapture system to maintain buffer concentration

Model	Mini 10	Midi Plus 10	Midi Plus 15
Buffer volume (ml)	225	300	500
Gel size W×L (mm)	70×100	150×100	150×150
Sample capacity	64	140	210
Unit W×L×H (mm)	90×210×90	175×265×90	175×265×90

Delivery information: Complete system including UV transparent gel tray is supplied with tank, lid, electrodes and 1.5 mm combs.

Description	Pk	Cat. No.
Horizontal gel unit, 7×10 cm, shiroGEL Mini 10	1	700-0250
Horizontal gel unit, 15×10 cm, shiroGEL Midi Plus 10	1	700-0253
Horizontal gel unit, 15×15 cm, shiroGEL Midi Plus 15	1	700-0255

Agarose, high resolution low melting (50 bp-1 kb), Electran®



Agarose high resolution (HR) has low melting and gelling temperatures but differs from traditional low melting point molecular biology grade agaroses in the gel separation range. Using this agarose in electrophoresis allows fine and consistent resolution of nucleic acids below 1000 base pairs, which differ by only a few base pairs. The properties of Agarose HR allow consistent gel separations (analytical and preparative) and performance of *in-vitro* translation and transcription mapping as well as *in-vivo* ligation and transformation. For analytical gel separation of DNA/RNA below 1000 base pairs where a higher gel strength for ease of manipulation is required, we recommend the use of Agarose, high resolution, Electran® (43655).

Pk	Cat. No.
100 g	437123Y

For full specifications see VWR BDH Prolabo Chemicals, Reagents, Standards and Media Catalogue

Agarose, DNA grade (100 bp-23 kb), Electran®



DNA grade agarose is suitable for the majority of routine DNA or RNA separations, but is ideal for separation of DNA fragments larger than 1000 bp. For applications where a more stringent specification is required molecular biology grade agarose is recommended.

Pk	Cat. No.
100 g	438792U
500 g	438794L
1 kg	438795A

For full specifications see VWR BDH Prolabo Chemicals, Reagents, Standards and Media Catalogue

Agarose, DNA pure grade (100 bp-23 kb), Electran®



Agarose DNA pure grade ensures reliable digestion and ligations from recovered DNA or RNA fragments from 100 bp to 25 kb. It is particularly suitable for both preparative and analytical separation procedures with nucleic acids ≥1000 base pairs, where a low melting point is not required. The agarose gives rise to firm gels even at low concentrations. Gives low background after ethidium bromide staining.

Pk	Cat. No.
500 g	443666A

For full specifications see VWR BDH Prolabo Chemicals, Reagents, Standards and Media Catalogue

Agarose, wide range low melting (200 bp-25 kb), Electran®



Agarose, wide range low melting, is a low melting temperature agarose (≤65 °C). Confidently resolve fragments from 200 bp to 25 kb prior to PCR, cloning, digesting, or sequencing in the presence of re-melted agarose, without additional purification steps. Ideal resolution of DNA fragments >1000 bp.

Pk	Cat. No.
25 g	444152G
100 g	444153H

For full specifications see VWR BDH Prolabo Chemicals, Reagents, Standards and Media Catalogue



Agarose I™

Agarose I™ is a standard melting/gelling agarose, suitable for routine nucleic acid analytical/preparative applications. Agarose I™ has a low EEO for shorter electrophoretic runs without compromising resolution. Agarose I™ is excellent for blotting techniques and general manipulations.

- All-purpose, high purity agarose
- Exceptional band resolution and clarity
- Nuclease and protease-free
- Convenient tablet form available - no weighing required

Description	Pk	Cat. No.
Agarose I™	100 g	0710-100G
Agarose I™	250 g	0710-250G
Agarose I™	500 g	0710-500G
Agarose I™ tablets, 500 mg	100 Tab.	K857-100TABS
Agarose I™ tablets, 500 mg	1.000 Tab.	K857-1000TABS



Agarose LF™

Agarose LF™ (Large Fragment) is optimised for pulsed-field gel electrophoresis (PFGE) applications. The exceptionally low EEO and high gel strength of Agarose LF™ facilitates faster electrophoresis running times in low concentration gels. This agarose is best suited for resolving large (>20 kb) DNA fragments.

- Optimised for pulsed field gel electrophoresis (PFGE)
- Ideal for resolving large (>20 kb) DNA fragments
- Nuclease and protease-free

Description	Pk	Cat. No.
Agarose LF™	25 g	X174-25G
Agarose LF™	100 g	X174-100G
Agarose LF™	250 g	X174-250G



Nucleic acid loading dyes

Designed to optimise loading nucleic acids in agarose gels, the loading dye imparts colour to the sample to facilitate the loading process and increase the density of the sample to ensure efficient sample distribution into each well. The dye migrates independently from the sample, allowing estimation of the migration of nucleic acids.

- Ready to use
- Eliminates exposure to irritating and harmful powdered dyes
- DNase, RNase and protease-free
- Functionally and analytically tested

Description	Pk	Cat. No.
Agarose gel loading dye, 6X, containing 3 tracking dyes and 15% Ficoll	5 ml	E190-5ML
Glycerol gel loading dye, 5X, containing 3 tracking dyes and 30% glycerol	1 ml	E269-1ML
Glycerol gel loading dye, 5X, containing 3 tracking dyes and 30% glycerol	5 ml	E269-5ML
Gel loading buffer (BPB), 4X, containing bromophenol blue	5 ml	K945-5ML
Sequencing gel loading dye, 3X, for denaturing DNA samples, containing 3 tracking dyes and formamide	1 ml	E268-1ML
Sequencing gel loading dye, 3X, for denaturing DNA samples, containing 3 tracking dyes and formamide	5 ml	E268-5ML
Sucrose gel loading dye, 5X, containing 3 tracking dyes and 40% sucrose	1 ml	E274-1ML
Sucrose gel loading dye, 5X, containing 3 tracking dyes and 40% sucrose	5 ml	E274-5ML



Agarose 3:1 HRB™

Agarose 3:1 HRB™ (High Resolution Blend) is a mixture of agarose formulated to provide high resolution of small nucleic acids and PCR products. This product is specially designed for analysis of DNA fragments less than 1000 bp. Agarose 3:1 HRB™ displays precise banding patterns without smearing or high background fluorescence. The high gel strength allows for easy to handle gels that are optimal for blotting applications.

- High resolution blend
- Optimal for small nucleic acid fragments and PCR products
- Easy to handle due to high gel strength
- Nuclease and protease-free

Description	Pk	Cat. No.
Agarose 3:1 HRB™	100 g	E776-100G
Agarose 3:1 HRB™	250 g	E776-250G
Agarose 3:1 HRB™	25 g	E776-25G

Agarose SFR™



Agarose SFR™ (Super Fine Resolution) is a high resolution sieving agarose with excellent clarity. DNA bands differing in size by 2% can be resolved in the range of 200 to 1000 bp. This agarose is suitable for the analysis of AFLPs (Amplified Fragment Length Polymorphisms), STRs (Short Tandem Repeats) and tetranucleotide repeats. The low melting temperature of Agarose SFR™ makes it an excellent medium for analytical and preparative electrophoresis.

- Super fine resolution - resolve 238 bp and 242 bp bands
- Low melting point
- Nuclease and protease-free

Description	Pk	Cat. No.
Agarose SFR™	25 g	J234-25G
Agarose SFR™	100 g	J234-100G
Agarose SFR™	250 g	J234-250G

MOPS buffer



MOPS is a zwitterionic buffer used as a running buffer for denaturing agarose gel electrophoresis of RNA. Having a buffering range from 6,5 - 7,9, MOPS works exceptionally well with formaldehyde gels at 20 mM concentration.

- Optimised for RNA agarose electrophoresis
- Ideal for use with RNA formaldehyde gels

Description	Pk	Cat. No.
MOPS, 10X Ready-Pack™, for 1 litre of 10X solution	1	K946-1PK
MOPS, powder	100 g	0670-100G
MOPS, powder	250 g	0670-250G
MOPS, powder	500 g	0670-500G
MOPS sodium salt, powder	25 g	E413-25G
MOPS sodium salt, powder	100 g	E413-100G
MOPS sodium salt, powder	250 g	E413-250G

Tris-Acetate-EDTA (TAE) buffer



TAE is an extensively used buffer for agarose gel electrophoresis applications requiring high resolution and separation of high molecular weight, double-stranded DNA. TAE buffer is more compatible with in-gel manipulations and band recovery procedures than TBE buffer.

- Ideal for DNA recovery and in-gel manipulations
- Low ionic strength
- Better resolution of large DNA fragments (>12 kb DNA)
- Convenient packaging options minimise weighing and mixing

Composition of (1X) TAE Buffer: 0,04 M Tris-Acetate; 0,001 M EDTA; final pH 8,0

Description	Pk	Cat. No.
TAE buffer, 25X liquid concentrate	1,6 l	0796-1.6L
TAE buffer, 25X Ready-Pack™, each pack makes 1 litre of 25X TAE buffer	2	0912-2PK
TAE buffer, 25X liquid concentrate	4 l	0796-4L
TAE buffer, 25X liquid concentrate	5 l	0796-5L
TAE buffer, 50X liquid concentrate	1,6 l	K915-1.6L
TAE buffer, 50X liquid concentrate	4 l	K915-4L
TAE buffer, 50X liquid concentrate	5 l	K915-5L
TAE buffer, 50X liquid concentrate	20 l	K915-20L

Tris-Borate-EDTA (TBE) buffers



TBE is optimised for DNA electrophoresis techniques using both acrylamide and agarose. Buffers are available as liquid concentrate or Ready-Pack™ (a foil pouch containing sufficient material to prepare 1 L of 10X concentrate).

- High buffering capacity
- High ionic strength
- Permits extended electrophoresis runs without buffer recirculation
- Convenient packaging options minimise weighing and mixing

Description	Pk	Cat. No.
TBE buffer, 10X Ready-Pack™, each pack makes 1 litre of 10X TBE buffer	2	0478-2PK
TBE buffer, 10X liquid concentrate	1 l	0658-1L
TBE buffer, 10X liquid concentrate	4 l	0658-4L
TBE buffer, 10X liquid concentrate	5 l	0658-5L
TBE buffer, 10X liquid concentrate	20 l	0658-20L
TBE buffer, 5X liquid concentrate	1 l	J885-1L
TBE buffer, 5X liquid concentrate	4 l	J885-4L
TBE buffer, 5X liquid concentrate	5 l	J885-5L
TBE buffer, 5X liquid concentrate	20 l	J885-20L

Denhardt's solution



A blocking reagent used to help prevent the probe from binding to open membrane space and non target nucleic acids.

Description	Pk	Cat. No.
Denhardt's solution, 100X, biotechnology grade	10 ml	E257-10ML
Denhardt's solution, 100X, biotechnology grade	50 ml	E257-50ML

DNA ladder, 100 bp



Ladder with 13 fragments ranging from 100 to 3000 bp for easy band identification.

Description	Pk	Cat. No.
100 bp ladder, sufficient for 50 lanes	250 µl	K180-250UL
100 bp Ready Ladder™, pre-mixed with loading dye, sufficient for 50 lanes	300 µl	N550-300UL

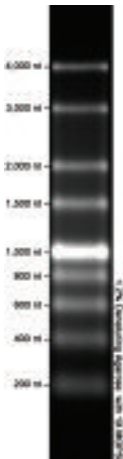
DNA ladder, 1 kb



Ladder with 11 fragments ranging from 500 to 10 000 bp for easy band identification.

Description	Pk	Cat. No.
1 kb ladder, sufficient for 100 lanes	500 µl	K181-500UL
1 kb Ready Ladder™, pre-mixed with loading dye, sufficient for 100 lanes	600 µl	N551-600UL

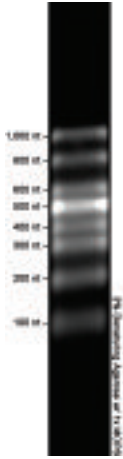
RNA ladder, 1 kb, RiboReady™



RiboReady™ ladders contain tracking dyes for loading and monitoring of your sample during electrophoresis as well as ethidium bromide for immediate visualisation of the ladder after electrophoresis. Fragment range 200 to 4000 nt.

Description	Pk	Cat. No.
RiboReady™ 1 kb RNA ladder, sufficient for 25 lanes	1 KIT	N604-KIT

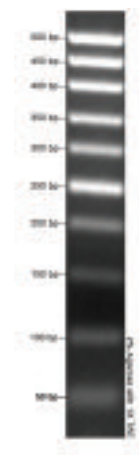
RNA ladder, 100 bp, RiboReady™



RiboReady™ ladders contain tracking dyes for loading and monitoring of your sample during electrophoresis as well as ethidium bromide for immediate visualisation of the ladder after electrophoresis. Fragment range 100 to 1000 nt.

Description	Pk	Cat. No.
RiboReady™ 100 bp RNA ladder, sufficient for 25 lanes	1 KIT	N603-KIT

DNA ladder, 50 bp, Ready Ladder™



Ladder with 10 fragments ranging from 50 to 500 bp for easy band identification. Ready to use formula pre-mixed with loading dye.

Description	Pk	Cat. No.
50 bp Ready Ladder™, pre-mixed with loading dye, sufficient for 100 lanes	1 KIT	N746-100RXN

Ethidium bromide



At a concentration of 0,5 µg/ml, ethidium bromide is useful in agarose or acrylamide gels for band detection. It is used to detect as little as 10 ng of nucleic acid. At higher concentrations (0,5 - 1,0 µg/ml), it may be used to facilitate purification of DNA in a caesium chloride gradient.

- Fluorescent stain for visualising nucleic acids
- Easy to use dropper bottle option

Description	Pk	Cat. No.
Ethidium bromide, dropper bottle, 0,625 mg/ml	5 ml	E406-5ML
Ethidium bromide, dropper bottle, 0,625 mg/ml	15 ml	E406-15ML
Ethidium bromide, stock solution, 10 mg/ml	10 ml	X328-10ML

DNA dye as loading buffer, EZ-Vision®



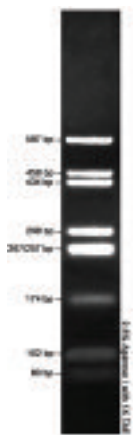
EZ-Vision® DNA dye as loading buffer provides a non mutagenic, environmentally friendly alternative to ethidium bromide for instantaneous fluorescent DNA band visualisation.

- Low background
- Requires no post-electrophoresis staining or destaining
- Works with most existing filters for gel documentation
- Broad emission spectra with peak near 450 nm
- Completely eliminates the need for ethidium bromide

Delivery information: Supplied as a kit containing 1, 2 or 3 tracking dyes in 6X loading buffer.

Description	Pk	Cat. No.
EZ-Vision® 1 DNA dye kit, with dye migrating at ~10 bp in a 1% agarose gel	1 KIT	N472-KIT
EZ-Vision® 1 DNA tracking dye at 10 bp only	0,5 ml	N472-Q-0.5ML
EZ-Vision® 2 DNA dye kit, with dyes migrating at ~4000 bp and 400 bp in a 1% agarose gel	1 KIT	N650-KIT
EZ-Vision® 3 DNA dye kit, with dyes migrating at ~4000 bp, 400 bp and 10 bp in a 1% agarose gel	1 KIT	N313-KIT

DNA MicroMarker™



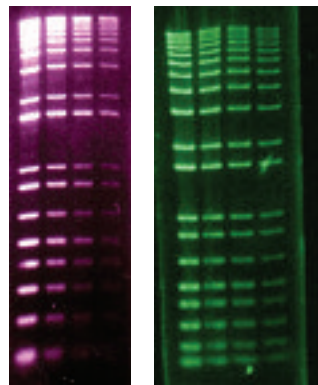
DNA MicroMarker™ with 9 fragments ranging from 80 to 587 bp for easy band identification.

- Ideal for electrophoresis of PCR fragments
- Accurate size estimation of small DNA fragments

Description	Pk	Cat. No.
DNA MicroMarker™, sufficient for 50 lanes	100 µg	E840-100UG

Nucleic acid gel stains, GelRed™ and GelGreen™

Biotium



GelRed™ and GelGreen™ are fluorescent nucleic acid gel stains that combine high sensitivity, low toxicity and exceptional stability. GelRed™ is compatible with any standard 312 nm transilluminator; GelGreen™ can be used with a 254 nm UV transilluminator or gel reader with visible light excitation.

- Highly sensitive either as precast gel stains or post gel stains
- Can be microwaved and stored at room temperature
- GelRed™ has been shown to be less mutagenic than ethidium bromide and is available at 10 000X concentration in water for increased safety
- No destaining necessary

Description	Pk	Cat. No.
GelRed™ 3X in water	4 l	730-2956
GelRed™ 10 000X in DMSO	0,5 ml	730-2957
GelRed™ 10 000X in water	0,5 ml	730-2958
GelGreen™ 10 000X in DMSO	0,5 ml	730-2959
GelGreen™ 10 000X in water	0,5 ml	730-2961

Acrylamide/bis-acrylamide



A complete range of pre-weighed powder blends, pre-mixed stock solutions, and ready to use solutions for customised PAGE of nucleic acids or polyacrylamide gel electrophoresis of proteins. Ultrapure (>99,9%) acrylamide and bis-acrylamide powders provide the flexibility to prepare solutions having concentrations and ratios for all electrophoresis applications. Liquid blends minimise the handling of neurotoxic acrylamide.

Description	Pk	Cat. No.
Acryl-40™ solution, 20% w/v	500 ml	0132-500ML
Bis-acrylamide, ultrapure powder	50 g	0172-50G
Bis-acrylamide, ultrapure powder	100 g	0172-100G
Bis-acrylamide, ultrapure powder	250 g	0172-250G
Acryl/Bis™ 19:1, pre-mixed powder	40 g	0729-40G
Acryl/Bis™ 19:1 solution, 40% w/v solution	500 ml	0496-500ML
Acryl/Bis™ 19:1 solution, 40% w/v solution	1 l	0496-1L
Acryl/Bis™ 29:1, pre-mixed powder	40 g	0673-40G
Acryl/Bis™ 29:1, pre-mixed powder	200 g	0673-200G
Acryl/Bis™ 29:1 solution, 40% w/v solution	500 ml	0311-500ML
Acryl/Bis™ 29:1 solution, 40% w/v solution	1 l	0311-1L
Acrylamide, ultrapure powder	100 g	0341-100G
Acrylamide, ultrapure powder	500 g	0341-500G
Acrylamide, ultrapure powder	1 kg	0341-1KG
Bis-2™ solution, 2% w/v	500 ml	0832-500ML

DNA isolation kits, E.Z.N.A.® and E-Z 96®
VWR by Omega bio-tek



DNA isolation kits allow for the isolation of genomic DNA from a variety of sample types, including whole milk taken directly from the cow, blood, soil, stool, bacteria, yeast, insect, cultured cells, mouse tail and fungal. Most kits are available in mini, midi, maxi and 96-well formats. Isolated DNA can be used for restriction digest, PCR, southern blotting, and sequencing. Magnetic bead-based kits can be adapted to most robotic liquid handling platforms. SQ kits use a solution-based extraction method allowing for varying sample size and high sample throughput extractions.



Tissue

Description	Average yield	Elution volume	Sample size	Pk	Cat. No.
E.Z.N.A.® Mag-Bind® Tissue DNA kit			30 mg	50 Tests	M6223-01
E.Z.N.A.® Mag-Bind® Tissue DNA kit			30 mg	200 Tests	M6223-02
E.Z.N.A.® Tissue DNA kit (V-Spin)	10 - 40 µg DNA	100 - 200 µl	30 mg	50 Tests	D3396-01
E.Z.N.A.® Tissue DNA kit (V-Spin)	10 - 40 µg DNA	100 - 200 µl	30 mg	200 Tests	D3396-02



HPLC/TLC	164
Washing	171
Ovens and Furnaces	174
Butyrometers	175
Chemical Milk Analyses	179
Drying	182
Freeze Point Determination	183
Speciality Tests	184

Safety caps



Standard

With shut-off function

Extract the solvent safely from reservoirs and bottles, without being exposed to hazardous gases and solvent vapours. With air valve and air filter. High quality materials (PTFE and PP) ensure maximum safety for your laboratory staff and environment.

- Recommended for HPLC systems
- Chemically resistant against aggressive organic solvents

Air filter and valves should be changed every six month for maximum safety.

Delivery information: Delivered with an air valve/filter and corresponding fitting.

Safety caps standard

Description	Connector	Pk	Cat. No.
Safety cap, GL 45	1× for tubing 3,2 mm (1/8") OD	1	590-1501
Safety cap, GL 45	2× for tubing 3,2 mm (1/8") OD	1	590-1507
Safety cap, GL 45	3× for tubing 3,2 mm (1/8") OD	1	590-1508

Safety caps with shut-off function

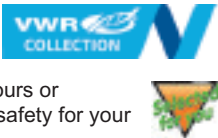
The shut-off on the safety caps can be closed to keep capillaries and inlet filters in the solvent during HPLC pump maintenance and ensure that the frits are not in contact with the ambient air. The pump can then be quickly and easily flushed during purging. The safety caps with shut-off also prevent air ingress into the tubing during solvent changes and guarantees that the analysis continues without a problem.

Description	Connector	Pk	Cat. No.
Safety cap, GL 45	1× for tubing 3,2 mm (1/8") OD	1	590-1502
Safety cap, GL 45	2× for tubing 3,2 mm (1/8") OD	1	590-1514
Safety cap, GL 45	3× for tubing 3,2 mm (1/8") OD	1	590-1515

Accessories

Description	Pk	Cat. No.
Air valve for safety caps	1	590-1500
Air filter for air valve	10	590-1519
PP fitting for 1,6, 2,3 and 3,2 mm OD tubing	10	590-1503
PTFE ferrules for fitting 1,6 mm	10	590-1504
PTFE ferrules for fitting 2,3 mm	10	590-1505
PTFE ferrules for fitting 3,2 mm	10	590-1506

Safety waste caps



Collect your solvent waste safely without being exposed to solvent vapours or hazardous gases. High quality materials (PTFE, PP) ensure maximum safety for your laboratory staff and environment.

- Recommended for HPLC systems
- Chemically resistant against aggressive organic solvent

Delivery information: Fittings and ferrules for tubing with 2.3 and 3.2 mm (1/8") OD are included. Exhaust air filter has to be ordered separately. Bottle not included.

Safety waste caps, standard

Description	Connector	Pk	Cat. No.
Safety waste cap, GL 45	3× for tubing 2,3/3,2 mm (1/8") OD	1	590-1510
Safety waste cap, S 55	3× for tubing 2,3/3,2 mm (1/8") OD	1	590-1512
Safety waste cap, S 60/61	3× for tubing 2,3/3,2 mm (1/8") OD	1	590-1513



Safety waste caps with tube connections

Tubing connector for e.g. leak connection of HPLC instruments.

Description	Connector	Pk	Cat. No.
Safety waste cap, GL 45	2× for tubing 2,3/3,2 mm (1/8") OD + 1 for tubing 6,4 mm ID	1	590-1516
Safety waste cap, S 55	2× for tubing 2,3/3,2 mm (1/8") OD + 1 for tubing 6,4 mm ID	1	590-1517
Safety waste cap, S 60/61	2× for tubing 2,3/3,2 mm (1/8") OD + 1 for tubing 6,4 mm ID	1	590-1518



Accessories

Description	Pk	Cat. No.
Exhaust filter S for safety waste caps, ±30000 m² filtering surface (for container <5 l)	1	590-1509
Exhaust filter M for safety waste caps, ±60000 m² filtering surface (for container <20 l)	1	590-1511

Micro syringe ultra-minute volume



Micro syringe with fixed needle for high sensitivity analysis and ultra-minute volume.

- Zero dead volume between plunger and needle
- Fixed needle with bevelled tip for smooth septum penetration



Volume (µl)	Length (mm)	Type of tip	Pk	Cat. No.
1	50	bevelled	1	549-0197
5	75	bevelled	1	549-0198

Length in ordering table refers to needle length.

Standard micro syringes



Standard micro syringes with fixed needle.

- All parts in contact with liquid are made of stainless steel and neutral borosilicate glass



Volume (µl)	Length (mm)	Type of tip	Pk	Cat. No.
10	50	bevelled	1	549-0199
25	50	bevelled	1	549-0522
50	50	bevelled	1	549-0523
100	50	bevelled	1	549-0524

Length in ordering table refers to needle length.

HPLC micro syringes, Rheodyne



The fine fixed needle with special polished blunt tip, specific length and diameter ensures a complete seal, preventing damage to needle seals and rotor.



Volume (µl)	Length (mm)	Type of tip	Pk	Cat. No.
10 *	51	LC	1	549-0534
100	51	LC	1	549-0535

* with super flexible plunger

Length in ordering table refers to needle length.

Gas-tight micro syringes



Micro syringes without needle

General purpose Luer lock connector for use with autosamplers and liquid handling instruments.

All parts in contact with sample are made from neutral borosilicate glass and PTFE. This provides excellent performance and inert sample environment.

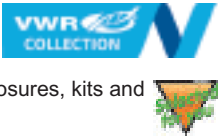
Ordering information: Needles must be ordered separately.

Volume (ml)	Pk	Cat. No.
1	1	549-0536
2,5	1	549-0537
5	1	549-0538
10	1	549-0539

Micro syringe with interchangeable needle

Volume (µl)	Length (mm)	Type of tip	Pk	Cat. No.
100	50	bevelled	1	549-0559

Screw neck vials ND8



Standard vials with a small opening for GC and HPLC, micro-inserts, closures, kits and tools.

- Broad range of small opening micro-inserts available
- Kits with vials (10×100) and closures available for convenience
- Especially suitable for VWR-Hitachi equipment

Screw neck vials ND8

Type	Capacity (ml)	Ø×H (mm)	Pk	Cat. No.
Clear glass	1,5	11,6×32	1.000	548-0018
Amber glass	1,5	11,6×32	1.000	548-0448
Clear glass with label	1,5	11,6×32	1.000	548-0420
Clear glass, conical	1,1	11,6×32	1.000	548-0419

Micro-inserts ND8 for small opening

Type	Capacity (ml)	Ø×H (mm)	Pk	Cat. No.
Clear glass, conical, top 15 mm	0,1	5×31	1.000	548-0020
Clear glass, conical, with assembled plastic spring	0,1	5×29	1.000	548-0083

Screw caps ND8 black PP with septa

Type	Septum	Hardness	Thickness (mm)	Pk	Cat. No.
With central hole 5,5 mm	Natural rubber red-orange/TEF transparent	60° shore A	1,3	1.000	548-0023
With central hole 5,5 mm	Silicone white/PTFE red	45° shore A	1,3	1.000	548-0024

Septa ND8

Type	Hardness	Thickness (mm)	Pk	Cat. No.
Natural rubber red-orange/TEF transparent	60° shore A	1,3	1.000	548-0318
Silicone white/PTFE blue, slitted	55° shore A	0,9	1.000	548-0026

Screw caps PP ND8 without septum

Type	Pk	Cat. No.
Black, central hole 5,5 mm	1.000	548-0025

Short thread vials ND9



Standard glass or plastic vials for GC and HPLC, micro-inserts, closures and kits. Universally usable on almost all autosamplers, preferred type of vial for Waters and Agilent.

- Wide opening enables easy filling
- Closures with different types of septa can be supplied in differently coloured caps; blue cap also available with closed top
- Pre-cut closures for HPLC needles available, where only the silicone is slitted, but the PTFE remains intact (no concentration changes; no contamination due to impurities extracted from the silicone)
- Synthetic material often used in Agilent red rubber/PTFE septa has been added to the product line (this is softer material with less fragmentation than natural rubber/TEF)

Short thread vials ND9

Type	Capacity (ml)	Ø×H (mm)	Pk	Cat. No.
Clear glass	1,5	11,6×32	1.000	548-0028
Clear glass with label	1,5	11,6×32	1.000	548-0029
Amber glass with label	1,5	11,6×32	1.000	548-0030
Clear glass with label, integrated 0,2 ml micro-insert	0,2	11,6×32	1.000	548-0425
Amber glass with label, integrated 0,2 ml micro-insert	0,2	11,6×32	1.000	548-3308
Clear Topsert TPX with integrated glass micro-insert 0,2 ml	0,2	11,6×32	1.000	548-0428
Amber Topsert TPX with integrated glass micro-insert	0,2	11,6×32	1.000	548-0791
Clear glass, inner cone in the solid glass bottom	1,1	11,6×32	1.000	548-0081

Micro-inserts for wide opening

Type	Capacity (ml)	Ø×H (mm)	Pk	Cat. No.
Micro-insert, clear glass, 15 mm top	0,1	6×31	1.000	548-0006
Micro-insert, clear glass, with assembled plastic spring	0,1	6×29	1.000	548-0002

Short screw caps with central hole 6 mm and septa ND9

Type	Septum	Hardness	Thickness (mm)	Pk	Cat. No.
PP blue	Natural rubber red-orange/TEF transparent	60° shore A	1,0	1.000	548-0086
PP blue	Silicone white/PTFE red	55° shore A	1,0	1.000	548-0085
PP blue	Silicone white/PTFE blue, slitted	55° shore A	1,0	1.000	548-0088
PP blue	Silicone white/PTFE red, pre-cut (Y)	55° shore A	1,0	1.000	548-3300

Crimp neck vials ND11



Standard vials for GC and HPLC with wide opening, micro-inserts, closures, kits and tools.

- Magnetic crimp caps for CTC PAL and TriPlus autosamplers
- Wide opening enables easy filling
- Broad range of micro-inserts and microvials available
- Vials with label and filling lines for easy handling

Packed in a cleanroom class 10 000.

Crimp neck vials ND11

Type	Capacity (ml)	Ø×H (mm)	Pk	Cat. No.
Clear glass, wide opening	1,5	11,6×32	1.000	548-0003
Clear glass with label, wide opening	1,5	11,6×32	1.000	548-0004
Amber glass with label, wide opening	1,5	11,6×32	1.000	548-0005
Clear glass with label and integrated 0,2 ml micro-insert	0,2	11,6×32	1.000	548-0424
Amber glass with label and integrated 0,2 ml micro-insert	0,2	11,6×32	1.000	548-3307
Clear TopSert, TPX snap ring vial with integrated 0,2 ml glass micro-insert	0,2	11,6×32	1.000	548-0429
Amber TopSert, TPX snap ring vial with integrated 0,2 ml glass micro-insert	0,2	11,6×32	1.000	548-0792
Clear glass, inner cone in solid glass bottom	1,1	11,6×32	1.000	548-0092

Micro-inserts for wide opening ND11

Type	Capacity (ml)	Ø×H (mm)	Pk	Cat. No.
Micro-insert, clear glass, 15 mm top	0,1	6×31	1.000	548-0006
Micro-insert, clear glass, with assembled plastic spring	0,1	6×29	1.000	548-0002

Aluminium crimp caps ND11 with central hole 5,5 mm and septum

Type	Septum	Hardness	Thickness (mm)	Pk	Cat. No.
Clear lacquered aluminium	Silicone white/PTFE red	45° shore A	1,3	1.000	548-0009
	Silicone white/PTFE blue, cross-slitted	55° shore A	1,5	1.000	548-0411
	PTFE virginal	53° shore D	0,25	1.000	548-0408
	PTFE red/silicone white/PTFE red	45° shore A	1,0	1.000	548-0007

Snap ring vials ND11



Vials, micro-inserts, closures and kits.

- Recommended for HPLC only
- Wide opening enables easy filling
- Vials can alternatively also be crimped with 11 mm aluminium crimp caps

Transparent and blue caps also available in a soft PE version.

Kits with 100 vials and closures can be obtained as well.



Snap ring vials ND11

Type	Capacity (ml)	Ø×H (mm)	Pk	Cat. No.
Clear glass	1,5	11,6×32	1.000	548-0011
Clear glass with label	1,5	11,6×32	1.000	548-0422
Amber glass with label	1,5	11,6×32	1.000	548-0012
Clear TopSert, TPX snap ring vial with integrated 0,2 ml glass micro-insert	0,2	11,6×32	1.000	548-0429
Amber TopSert, TPX snap ring vial with integrated 0,2 ml glass micro-insert	0,2	11,6×32	1.000	548-0792

Micro-inserts for snap ring vials

Type	Capacity (ml)	Ø×H (mm)	Pk	Cat. No.
Micro-insert, clear glass, 15 mm top	0,1	6×31	1.000	548-0006
Micro-insert, clear glass, with assembled plastic spring	0,1	6×29	1.000	548-0002

Snap ring caps ND11 PE with central hole 6 mm and septa

Type	Septum	Hardness	Thickness (mm)	Pk	Cat. No.
PE transparent, hard version	Silicone white/PTFE red	45° shore A	1,3	1.000	548-0016
	Silicone white/PTFE red, pre-cut (Y)	45° shore A	1,3	1.000	548-3331
	Silicone white/PTFE blue, cross-slitted	55° shore A	1,0	1.000	548-0017
PE transparent, soft version	Silicone white/PTFE red	45° shore A	1,3	1.000	548-3205
	Silicone white/PTFE blue, cross-slitted	55° shore A	1,0	1.000	548-3206
	Silicone white/PTFE red, pre-cut (Y)	45° shore A	1,3	1.000	548-3333

Ion exclusion chromatography columns, SUGAR SH

Columns for simultaneous analysis of saccharides and organic acids

- Separates saccharides in size exclusion mode and organic acids in ion exclusion mode
- Suitable for the analysis of uronic and aldonic acids

Description	Particle size (µm)	I-Ø×L (mm)	Exclusion limit (Pullulan)	Pk	Cat. No.
SUGAR SH1011	6	8,0×300	1000	1	554-2221
SUGAR SH1821	6	8,0×300	10000	1	554-2222
SUGAR SH-G guard column	10	6,0×50	-	1	554-2229

Ligand exchange and HILIC chromatography columns

Separation is performed by combining ligand exchange and HILIC modes

- SC1211 is suitable for separation of sugar alcohols
- SZ5532 is recommended for the separation of disaccharides or trisaccharides

Description	Pore size (Å)	Particle size (µm)	I-Ø×L (mm)	Pk	Cat. No.
SUGAR SC1211	50	6	6,0×250	1	554-2238
SUGAR SZ5532	100	6	6,0×150	1	554-2237
SUGAR SC-G guard column	-	10	4,6×10	1	554-2233
SUGAR SZ-G guard column	-	6	4,6×10	1	554-2232

Size exclusion and ligand exchange chromatography columns

SC1011, SC1821, SP0810, KS-801 and KS-802

- Separates saccharides by combining ligand exchange and size exclusion modes
- Three types of counter ions are available: Ca, Pb, and Na ions
- Solvents other than water are not required for the analysis of neutral sugars

KS-803 to KS-807

- Suitable for separation of polysaccharides in the size exclusion mode
- Available in combination with KS-802 and KS-801
- Solvents other than water are not required for the analysis of neutral sugars

EP SC1011-7F

- Suitable for Ca-type ligand exchange chromatography
- For the analysis of sugar alcohols and saccharides in conformity with EP

Description	Particle size (µm)	I-Ø×L (mm)	Exclusion limit (Pullulan)	Pk	Cat. No.
SUGAR SC1011	6	8,0×300	1000	1	554-2223
SUGAR SC1821	6	8,0×300	10000	1	554-2224
SUGAR SP0810	7	8,0×300	1000	1	554-2225
SUGAR KS-801	6	8,0×300	1000	1	554-2214
SUGAR KS-802	6	8,0×300	10000	1	554-2215
SUGAR KS-803	6	8,0×300	50000	1	554-2216
SUGAR KS-804	7	8,0×300	400000	1	554-2217
SUGAR KS-805	17	8,0×300	5000000	1	554-2218
SUGAR KS-806	17	8,0×300	50000000*	1	554-2219
SUGAR KS-807	30	8,0×300	200000000*	1	554-2220
SUGAR KS-G guard column	10	6,0×50	-	1	554-2227
SUGAR KS-807G guard column	30	8,0×50	-	1	554-2228
SUGAR SP-G guard column	10	6,0×50	-	1	554-2230
SUGAR SC-LG guard column	10	6,0×50	-	1	554-2231
EP SC1011-7F	8	7,8×300	-	1	554-2226

* Estimated value

Hydrophilic interaction chromatography columns (HILIC), Asahipak NH2P

Polymer-based packed columns for saccharides analysis

- Excellent chemical stability and resistance to degradation over time
- Washable with alkaline solution
- Suitable for evaporative light-scattering detector, corona-charged aerosol detector and LC/MS
- NH2P-40 is the high performance version of NH2P-50

Description	Pore size (Å)	Particle size (µm)	I-Ø×L (mm)	Pk	Cat. No.
NH2P-50 2D	100	5	2,0×150	1	554-0878
NH2P-50 4D	100	5	4,6×150	1	554-0879
NH2P-50 4E	100	5	4,6×250	1	554-0880
NH2P-50G 2A guard column	-	5	2,0×10	1	554-2236
NH2P-50G 4A guard column	-	5	4,6×10	1	554-2234
NH2P-LF line filter	-	-	8,0×75	1	554-2235

Capillary columns, Forte BPX70
SGE



70% cyanopropyl polysilphenylene-siloxane
Polarity has been designed for Fatty Acid Methyl ester (FAME) analysis.

Max. temperature: 260 °C
Suitable replacement for: CP-Sil88, DB-23, HP-23, Rtx-2330, SP-2330, SP-2380.

Ø int. (mm)	Film (µm)	Length (m)	Pk	Cat. No.
0,1	0,2	10	1	568-0170
0,22	0,25	30	1	568-0174

Flat bottom chambers
CAMAG



The flat bottom chamber permits the chromatogram to be developed under conditions of partial or complete saturation of the tank atmosphere with solvent vapours. The degree of layer pre-saturation cannot be controlled unless additional accessories are used.

Description	Pk	Cat. No.
Chamber, lightweight, for 200×200 mm plates, with glass lid	1	552-0027
Chamber for 200×200 mm plates, with stainless steel lid	1	552-0024

Twin trough chambers
CAMAG



Twin trough chambers offer several ways to improve the results of TLC/HPTLC developing techniques.

- Low solvent consumption
- Reproducible pre-equilibration of the plate with solvent vapour is possible by placing it in the empty trough opposite that containing the solvent

Development only starts when the solvent is introduced into the trough with the plate.

Description	Pk	Cat. No.
Chamber for 100×100 mm plates, with stainless steel lid	1	552-0011
Chamber for 100×100 mm plates, without lid	1	552-0012
Chamber, lightweight, for 200x100 mm plates, with glass lid	1	552-0029

TLC plates
Funke-Gerber

- With aluminium liner
- Can be cut with scissors

Description	Format (mm)	Pk	Cat. No.
25 silicon dioxide gel	200×200	1	552-0129

Cleaning and disinfection machines, G 7883, Mielabor

Miele



Without active drying unit

The G 7883 cleaner/disinfector is suitable for reprocessing laboratory glassware for analytical experiments in e.g. industry, environmental and research laboratories. This appliance has a large two-level wash cabinet and can be integrated into a continuous worktop as a built-under unit or installed as a freestanding unit.

- Direct connection of the upper basket and mobile units to the hydraulic circuit enables thorough cleaning inside and outside of the items washed
- Integrated dispensing pump for precise and automatic dispensing of liquid agents
- Final rinse with demineralised water for reprocessing results suitable for analytical experiments
- Profi-Monobloc ensures continual regeneration during cleaning
- Steam condenser ensures that the room is not exposed to steam and hot air. Unnecessary to connect an exhaust duct

In accordance with VDE, EMC/radio interference protection, DVGW, IP X1.



Capacity	Example: 39 narrow-necked glassware items or 116 pipettes or 1600 test tubes
Controller/programmes	Multitronic Novo Plus controller (certain process parameters can be changed), with 10 standard cleaning programmes
Programme operation/display	Operation via single-button programme selector switch; programme cycle displays, display of temperature and programme running time, display at programme end, visual and acoustic signal, indicator lamps for service and fault messages
Metering devices	Door dispensers for powder detergent and liquid agents. Integrated dispensing pump for neutralising agent, optional DOS G 60 dispensing module for liquid detergents
Circulation pump (Qmax)	400 l/min
Water connection	1×hot water, 1×cold water, 1×purified water
W×D×H (mm)	600×600×850 (820 mm without cover)
Weight (kg)	74

Ordering information: Baskets must be ordered separately. Other models, e.g. with cladding in white or with decorative border, are available on request. For usage as a freestanding unit, the cover must be ordered separately, please contact VWR for details.

Description	Pk	Cat. No.
G 7883 Mielabor with Aquadem feed pump	1	141-1328
G 7883 Mielabor with serial interface RS232	1	141-1329

Cleaning and disinfection machine, type G7893

Miele



With Integrated hot air dryer

These front loading devices can fit under a work surface and have a large washing compartment with two levels; they are available in stainless steel. They are suitable for washing to analytically pure standards of laboratory glassware in industry, environmental and research laboratories. The machines are fitted with an integrated hot air drier, and are only 600 mm wide.

- Direct coupling of the upper basket, either with spray arm or injector jets, to the water supply enables the items to be thoroughly cleaned inside and out
- Drying Plus enables the machine and also complex items to be effectively dried inside and out
- Integrated dosage pump for an accurate and automatic dosage of neutralisation agents
- Rinsing with demineralised water for analytically pure treatment results
- Profi-Monobloc water softener ensures continuous regeneration during cleaning
- Steam condenser prevents expelled moisture and hot air from damaging room; no connection to extractor required

Compliant with VDE, EMC/radio interference protection, IP X1



Capacity	37 narrow-necked vessels or 96 pipettes or 1600 test tubes
Controller/programmes	Mutitronic Novo Plus controller (certain process parameters can be changed), with 10 standard cleaning programmes
Programme operation/display	Programme operation via single-button programme selector switch; programme cycle displays, display of temperature and programme running time, display at programme end, visual and acoustic signal, indicator lamps for service and fault messages
Drying	Drying Plus: Integrated hot air system with HEPA filter (H12)
Metering devices	Metering device/door for powder cleaning agent; metering device/door for liquid media; integrated dosage pump for neutralising agents; optionally extendable for dosage module DOS G 60 for liquid cleaning agents
Circulation pump (Qmax)	400 l/min
Water connection	2x cold water, 1x hot water, 1x demineralised water
Power connection	Input voltage 3N AC 400 V, 50 Hz, (16 A/9,7 kW)
W×D×H (mm)	600×600×850 (820 without cover)
Weight (kg)	78

Ordering information: Basket equipment must be ordered separately. For use as a standard device, the cover must be ordered separately.

Description	Pk	Cat. No.
G7893 Drying Plus, with connection for demineralised water and serial interface RS232	1	141-1963

Baskets sets for general purpose laboratory glassware reprocessing

Miele



Whether compact unit or large machine, Miele Professional and VWR have the ideal automatic laboratory glassware reprocessing system; safe, standardised and validatable.

Composition of E 195 set: 1× O 195 upper basket/open front empty, 1x E 356 mobile injector unit 1/2 multipurpose w/o TA, 2× AK 12 insert 1/2, 1× E 106 insert 1/2.

O 195 VWR: Upper basket/open front (empty): Upper basket with built-in spray arm and space for various inserts. W×D×H: 531×475×215 mm.

E 356 VWR: Mobile injection unit 1/2 multipurpose: The E 356 Miele-VWR injector basket is without drying connection. Half for narrow necked glassware, half for other inserts. Clearance with upper basket, 284 mm; clearance without upper basket, 488 mm.

AK 12 insert 1/2: For funnels, beakers, wide necked flasks etc. W×D×H: 225×442×67/127 mm.

E 106 insert 1/2: For various laboratory glassware (narrow necked glassware, measuring

flasks etc.). W×D×H: 195×430×186 mm.

- Universal loading: The concept allows for universal laboratory glassware, such as bottles, narrow-necked glassware, measuring glasses, beakers etc. to be prepared in one single batch
- Tall laboratory glassware can be prepared by removing the upper basket
- Simultaneous cleaning of flasks and their tops/plugs; cleaning of flasks in the injector basket and cleaning of the tops/plugs in the upper basket
- Highly economical preparation process by cleaning on 2 levels

Description	Pk	Cat. No.
E 195 set without TA (without drying connection)	1	141-0148

Racks and baskets

Miele

Description	Equipment height (mm)	With	G 7883	G 7883CD	G 7835CD	G 7836CD	G 7893
O 175, top injector basket for narrow-necked glassware, with drying unit connection	170 mm	33 nozzles, 33 adjustment positions		x	x	x	x
E 414, full injector basket for narrow-necked glassware, with drying unit connection	-	37 nozzles,		x	x	x	x
E 380, full injector basket for narrow-necked glassware, with drying unit connection	-	One half with 15 nozzles 160 mm high, 17 nozzles 220 mm high. Other half free for half insert		x	x	x	x
E 350, full injector trolley for narrow-necked glassware	-	One half with 15 nozzles 160 mm high, 18 nozzles 220 mm high. Other half free for half insert	x				
E 340, half injector basket for narrow-necked glassware	-	One half with 19 nozzles. Other half free for half insert	x	x	x	x	x
U 874/1, bottom basket, mount for various inserts	dependent on top basket		x	x	x	x	x
O 188/1, top basket, mount for various inserts	165 mm		x	x	x	x	x
O 184, top injector basket for tubes and misc. laboratory glassware, with drying unit connection	170 mm	96 nozzles	x	x	x	x	x
O 187, top injector basket for narrow-necked / laboratory glassware	170 mm	34 nozzles	x	x	x	x	x
U 175 / 1, bottom injector basket for narrow-necked glassware	170 mm	33 nozzles / 33 adjustment positions, 1 rinsing nozzle				x	
U 184/1, bottom basket, injector for misc. laboratory glassware	170 mm	96 nozzles				x	
E 406, full injector basket for 116 pipettes	450 mm		x				
E 408, full injector basket for 96 pipettes, with drying unit connection	450 mm		x	x	x	x	x
E 404/1, full injector basket for 38 pipettes, in 3 rows	-		x				
E 355, half injector basket for narrow-necked glassware	-	One half with 7 nozzles 160 mm high, 9 nozzles 220 mm high. Other half free for half insert	x				
E 329, full injector basket for narrow-necked glassware	-	39 nozzles	x				
E 331, mobile injector unit for butyrometers	-	39 nozzles and 1× irrigation nozzle for powder dispenser	x	x	x	x	x

Description	Pk	Cat. No.
E 331, mobile injector unit for butyrometers	1	141-1120

Detergents for manual cleaning and washing machines

Description	Pk	Cat. No.
LABWASH PREMIUM Classic, mildly alkaline concentrate for manual cleaning of laboratory glassware	5 l	84545.360
LABWASH PREMIUM extra, concentrate for the manual cleaning of laboratory glassware and precision components	5 l	84546.360
LABWASH PREMIUM neutra, pH-neutral concentrate for the cleaning of laboratory glassware and precision components	5 l	84547.360
LABWASH PREMIUM alkamatic, mildly alkaline, liquid cleaning concentrate for special washing machines	5 l	84549.360
LABWASH PREMIUM alkamatic PF, alkaline, phosphate-free, chlorine-free, liquid cleaning concentrate for special washing machines for heavy contamination	5 l	84550.360
LABWASH PREMIUM acidrinse C, phosphate-free neutraliser for special washing machines	5 l	84551.360
LABWASH PREMIUM acidrinse P, neutraliser and precleaner for special washing machines	5 l	84552.360
LABWASH PREMIUM easyrinse, acidic, ecological rinsing concentrate with shiny effect	5 l	84553.360
LABWASH PREMIUM extra PF, phosphate-free concentrate for manual cleaning of laboratory glassware	5 l	84554.360
LABWASH PREMIUM pure, concentrate for soak and spray cleaning of laboratory glassware	5 l	84555.360
LABWASH PREMIUM alkamatic LA, highly alkaline, intensive cleaner for laboratory washers	5 l	84556.360

Ovens with natural convection, DRY-Line®



Drying ovens with natural convection used for thermal processes, heated storage and for convection drying applications with temperatures up to 220 °C. Exhaust duct at the back of the unit with manually adjustable slide.

- Microprocessor controller
- Integrated timer can be set for continuous mode or timer operation: 0 to 999 min or 0 to 99,9 h
- Over-temperature protection with visual alarm (Class 3,1 safety device)
- Digital temperature setting with degree accuracy



Model	DL 53
Temperature range (°C)	ambient +5...220
Temperature fluctuation (time) (°C)	at 150 °C: ±0,4
Temperature variation (spatial) (°C)	at 150 °C: ±3,3
Capacity (l)	53
Shelves supplied (max.)	2 (4)
Max. load per shelf (kg)	10
Internal W×D×H (mm)	401×330×401
External W×D×H (mm)	620×600×680
Nominal power consumption (W)	800
Weight (kg)	41

Delivery information: Supplied with two chrome plated shelves.

Description	Pk	Cat. No.
DRY-Line 53	1	466-3510

Accessories			
Description	For	Pk	Cat. No.
Chrome plated shelf	DL 53/VL 53/IL 53	1	466-3522
Chrome plated shelf	DL 115/VL 115/IL 115	1	466-3523

Ashing furnaces with flap door, LV series

Nabertherm



These models are especially designed for ashing in the laboratory. Units feature rust-free, textured stainless steel exteriors. A special air intake and exhaust system allows air exchange of more than 6 times per minute. Incoming air is pre-heated to ensure a good temperature uniformity. Models have Tmax 1100 °C, and feature a silent solid-state power control relay.

- Heating on two sides by means of ceramic heating plates, module lining is highly durable, high performance cured vacuum fibre
- Ceramic heating plates with integral heating element which is protected from fumes and splashing, and is easy to replace
- Double walled casing for low external temperatures and stability
- Optional fold down door (L) which can be used as work platform or lift door (LT) with hot surface facing away from the operator
- Air exchanged more than 6 times per minute

Delivery information: Supplied with choice of digital PID B 180 controller with one freely programmable ramp, holding temperature and holding time or professional P 330 controller with nine freely adjustable programmes and 40 segments and RS422 interface. All units are supplied with plugs and these models require a 230 V single phase power supply.

Type	Max. temp. (°C)	Power (W)	Capacity (l)	W×D×H int. (mm)	W×D×H ext. (mm)	Pk	Cat. No.
LV models with fold-down door, P 330 controller							
LV 3/11	1100	Max. 1200	3	160×140×100	380×370×750	1	455-0159
LV 5/11	1100	Max. 2400	5	200×170×130	440×470×850	1	455-0161
LV 15/11	1100	Max. 3600	15	230×340×170	480×650×900	1	455-0165

Note: Maximum continuous operating temperature should be 50 °C below the 'Max. temp.' of the model shown in the table above.

Butter butyrometer, without stopper

Funke-Gerber

According to Roeder’s weighing method.

Description	Pk	Cat. No.
Butyrometer for butter, Roeder’s, 0 - 70 - 90 % : 0,5	10	614-0132
Accessories		
Description	Pk	Cat. No.
Stopper, rubber, for sealing the bulbs of all weighing method butyrometers	100	614-2029
Stopper, rubber, with hole, for all weighing method butyrometers	100	614-2030
Butter beaker, with 2 holes	1	614-2035
Weighing boat for butter for butyrometers acc. to Roeder’s method	1	614-2034

Cheese butyrometer, without stopper

Funke-Gerber



According to Van Gulik’s weighing method.

Description	Pk	Cat. No.
Butyrometer for cheese, 0 - 40 % : 0,5	1	614-0133
Accessories		
Description	Pk	Cat. No.
Cheese beaker, perforated, short design, for butyrometers acc. to Van Gulik’s method	1	614-0141
Cheese beaker, perforated, for butyrometers acc. to Van Gulik’s method	1	614-2033
Stopper, rubber, for sealing the bulbs of all weighing method butyrometers	100	614-2029
Stopper, rubber, with hole, for all weighing method butyrometers	100	614-2030

Cream butyrometer, without stopper

Funke-Gerber



Measuring method, for ice cream.

Description	Pk	Cat. No.
Butyrometer for cream, 0 - 15 % : 0,2	1	614-0105
Butyrometer for cream, 0 - 20 % : 0,2	1	614-0106
Accessories		
Description	Pk	Cat. No.
Stopper, rubber, conical, for all measuring method butyrometers	100	614-2028

Cream butyrometer, without stopper

Funke-Gerber



According to Roeder’s weighing method.

Description	Pk	Cat. No.
Butyrometer for cream, Roeder’s, 0 - 5 - 40 % : 0,5	10	614-0107
Butyrometer for cream, Roeder’s, 0 - 30 - 55 % : 0,5	1	614-0108
Butyrometer for cream, Roeder’s, 0 - 50 - 75 % : 0,5	10	614-0117
Butyrometer for cream, Roeder’s, 0 - 5 - 70 % : 1,0	10	614-0118
Accessories		
Description	Pk	Cat. No.
Stopper, rubber, for sealing the bulbs of all weighing method butyrometers	100	614-2029
Stopper, rubber, with hole, for all weighing method butyrometers	100	614-2030
Cream beaker, unperforated, for ice cream and condensed milk butyrometer and cream butyrometer acc. to Roeder’s method	1	614-2032
Weighing boat for butter for butyrometers acc. to Roeder’s method	1	614-2034

Cream butyrometer, without stopper

Funke-Gerber



According to Schulz-Kley's weighing method with closed bulb.

Description	Pk	Cat. No.
Butyrometer for cream, Schulz-Kley's, 0 - 5 - 40 % : 0,5	10	614-0119
Accessories		
Description	Pk	Cat. No.
Stopper, rubber, conical, for all measuring method butyrometers	100	614-2028

Cream butyrometer, without stopper

Funke-Gerber



According to Koehler's measuring method.

Description	Pk	Cat. No.
Butyrometer for cream, Koehler's, 0 - 30 % : 0,5	1	614-0120
Butyrometer for cream, Koehler's, 0 - 40 % : 0,5	10	614-0127
Butyrometer for cream, Koehler's, 0 - 50 % : 1,0	10	614-0128
Butyrometer for cream, Koehler's, 0 - 60 % : 1,0	10	614-0129
Butyrometer for cream, Koehler's, 0 - 70 % : 1,0	10	614-0130
Butyrometer for cream, Koehler's, 0 - 80 % : 1,0	1	614-0131
Accessories		
Description	Pk	Cat. No.
Stopper, rubber, conical, for all measuring method butyrometers	100	614-2028

Food butyrometer, without stopper

Funke-Gerber

According to Roeder's weighing method.

Description	Pk	Cat. No.
Butyrometer for food, Roeder's, 0 - 100 % : 1,0	10	614-0135
Accessories		
Description	Pk	Cat. No.
Stopper, rubber, for sealing the bulbs of all weighing method butyrometers	100	614-2029
Stopper, rubber, with hole, for all weighing method butyrometers	100	614-2030
Cream beaker, unperforated, for ice cream and condensed milk butyrometer and cream butyrometer acc. to Roeder's method	1	614-2032
Weighing boat for butter for butyrometers acc. to Roeder's method	1	614-2034

Curd butyrometer, without stopper

Funke-Gerber



Weighing method.

Description	Pk	Cat. No.
Butyrometer for curd, 0 - 20 % : 0,2	10	614-0134
Accessories		
Description	Pk	Cat. No.
Stopper, rubber, for sealing the bulbs of all weighing method butyrometers	100	614-2029
Stopper, rubber, with hole, for all weighing method butyrometers	100	614-2030
Cheese beaker, perforated, for butyrometers acc. to Van Gulik's method	1	614-2033

Free fat butyrometer

Funke-Gerber

For determining free fat content in milk and cream.

Description	Pk	Cat. No.
Butyrometer for free fat, complete with screw cap, scale 0,002 g	1	614-0136

Ice cream and condensed milk butyrometer, without stopper
Funke-Gerber



According to Roeder's weighing method.

Description	Pk	Cat. No.
Butyrometer for ice cream and condensed milk, Roeder's, 0 - 6 - 12 % : 0,1	10	614-0103
Butyrometer for ice cream and condensed milk, Roeder's, 0 - 15 % : 0,2	1	614-0104
Accessories		
Description	Pk	Cat. No.
Stopper, rubber, for sealing the bulbs of all weighing method butyrometers	100	614-2029
Stopper, rubber, with hole, for all weighing method butyrometers	100	614-2030
Cream beaker, unperforated, for ice cream and condensed milk butyrometer and cream butyrometer acc. to Roeder's method	1	614-2032
Weighing boat for butter for butyrometers acc. to Roeder's method	1	614-2034

Milk butyrometer, without stopper
Funke-Gerber



Borosilicate glass

Description	Pk	Cat. No.
Butyrometer for milk, 0 - 5 % : 0,1	1	614-0089
Butyrometer for milk, 0 - 6 % : 0,1	10	614-0090
Butyrometer for milk, 0 - 7 % : 0,1	10	614-0091
Butyrometer for milk, 0 - 8 % : 0,1	1	614-0092
Butyrometer for milk, 0 - 9 % : 0,1	10	614-0093
Butyrometer for milk, 0 - 10 % : 0,1	1	614-0094
Butyrometer for milk, 0 - 12 % : 0,1	10	614-0095
Butyrometer for milk, 0 - 16 % : 0,2	10	614-0096
Accessories		
Description	Pk	Cat. No.
Stopper, rubber, conical, for all measuring method butyrometers	100	614-2028

Powdered milk butyrometer, without stopper
Funke-Gerber



According to Teichert's method.

Description	Pk	Cat. No.
Butyrometer for powdered milk, 0 - 35 % : 0,5	10	614-0101
Butyrometer for powdered milk, 0 - 70 % : 1,0	1	614-0102
Accessories		
Description	Pk	Cat. No.
Stopper, rubber, without hole, for powdered milk butyrometer	100	614-2031
Nail, glass, for powdered milk butyrometer, lenght: 41,5 mm	1	614-0140

Precision butyrometer, without stopper
Funke-Gerber

For drinking milk and vat milk, frosted rear scale wall, error tolerance 0,025 %.

Description	Pk	Cat. No.
Butyrometer, precision, 0 - 4 % : 0,05	1	614-0088
Accessories		
Description	Pk	Cat. No.
Stopper, rubber, conical, for all measuring method butyrometers	100	614-2028

Skimmed milk butyrometer, without stopper



According to Siegfeld's method.

Description	Pk	Cat. No.
Butyrometer for skimmed milk, Siegfeld's, 0 - 0,5 % : 0,02	10	614-0100
Accessories		
Description	Pk	Cat. No.
Stopper, rubber, conical, for all measuring method butyrometers	100	614-2028

Skimmed milk butyrometer, without stopper

Funke-Gerber



According to Sichler`s method, with rounded scale.

Description	Pk	Cat. No.
Butyrometer for skimmed milk, 0 - 1 % : 0,01, with open bulb	1	614-0097
Accessories		
Description	Pk	Cat. No.
Stopper, rubber, conical, for all measuring method butyrometers	100	614-2028
Stopper, rubber, for sealing the bulbs of all weighing method butyrometers	100	614-2029

Skimmed milk butyrometer, without stopper

Funke-Gerber

According to Kehe`s method.

Description	Pk	Cat. No.
Butyrometer for skimmed milk, 0 - 4 % : 0,05	1	614-0098
Butyrometer for skimmed milk, 0 - 5 % : 0,05	1	614-0099
Accessories		
Description	Pk	Cat. No.
Stopper, rubber, conical, for all measuring method butyrometers	100	614-2028

Patent closures for Butyrometer

Funke-Gerber



For all measuring method butyrometers.

Description	Pk	Cat. No.
Patent closures		
FIBU patent closure, without adjustment key	1	614-2022
GERBAL patent closure, without adjustment key	1	614-2024
NOVO patent closure, without adjustment key	1	614-2026
Key for patent closures		
Adjustment key for FIBU closures	1	614-2023
Adjustment key for GERBAL closures	1	614-2025
Adjustment key for NOVO closures	1	614-2027

Butyrometer stands and protective shaking hoods

Funke-Gerber

Description	Pk	Cat. No.
Butyrometer stands		
Rack, PP, for 36 butyrometers	1	709-0108
Rack, PP, for 12 butyrometers	1	709-0109
Protective shaking hoods		
Hood, protective, for butyromter rack for 36 samples	1	709-0110
Hood, protective, for butyromter rack for 12 samples	1	709-0111

Butyrometer shaking stand

Funke-Gerber

Description	Pk	Cat. No.
Shaking Rack, PP, for 12 butyrometers	1	709-0112

Reading lamp for butyrometers

Funke-Gerber

This lamp is designed for reading results on butyrometers.

- Anti-glare illumination
- Lens with protective Plexiglas® cover
- Adjustable height and lens distance
- Cord operated switch
- Designed for milk analysis

Description	For	Pk	Cat. No.
Safety reading lamp	Butyrometers	1	614-2038

Instrument for milk analysis, LactoFlash

Funke-Gerber



Analytical instrument for fast and accurate determination of fat and SNF content

LactoFlash is an accurate, reliable instrument for rapid analysis of the main constituents of milk. It directly measures fat and SNF (Solids Non Fat) and then calculates density, protein, lactose and freezing point.

- Sample capacity of up to 120/h
- Two menu languages are available: English and German
- User friendly display
- Easy to calibrate
- The pump head can be replaced easily without the use of tools

Parameter	Resolution	Reproducibility (r)	Measuring range
Fat	0,01 %	0,02 % in 0 - 5 % range 0,2 % in 5 - 30 % range	0 - 30 %
SNF	0,01 %	0,04 %	0 - 15 %
Density	0,0001	0,0001	no limit
Protein	0,01 %	0,03 %	no limit/calculated value
Lactose	0,01 %	0,02 %	no limit/calculated value
Gpp	0,001 °C	0,001 °C	no limit/calculated value

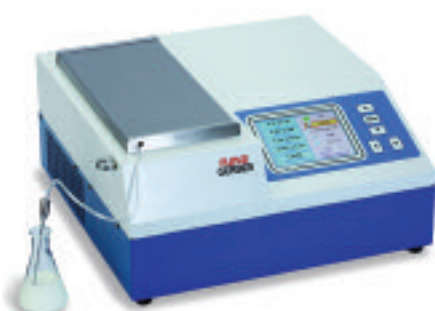
Flow rate (ml/min)	12 - 20
Connection	1× printer 1× RS232
Mains voltage (V/Hz)	230 V/115 V AC - 50/60 Hz
W×D×H (mm)	300×330×240
Motor rating (W)	60
Weight (kg)	5

Description	Pk	Cat. No.
LactoFlash pump	1	614-0163

Accessories and spare parts		
Description	Pk	Cat. No.
Pump head (attachment for hose pump), for LactoFlash	1	224-0085
Hose pump, complete for LactoFlash	1	224-0086
Cleaning agent, 500 ml, for LactoFlash and LactoStar instruments	500 ml	614-2052
Thermal printer, incl. 1× thermal paper roll, for LactoFlash, LactoStar and CryoStar instruments	1	614-2053

Instrument for milk analysis, LactoStar

Funke-Gerber



LactoStar is the big brother of the LactoFlash. It measures fat, protein, lactose, SNF (Solids Non Fat), minerals and calculates the freezing point and density of the milk. The LactoStar uses a 12 ml sample of milk and passes it through thermal and optical sensors to get the results. Up to 30 samples can be processed per hour. The instrument has 3 pumps: The measuring pump, the rinsing pump and the cleaning pump, which are connected to the corresponding canister.

Measurement principle: The milk sample is sucked into the measuring cells by means of a pump. Both the fat content as well as the SNF are determined by using thermal measurement effects (RedBox). Protein, lactose, density and minerals are determined in addition with the aid of a second measuring cell that is equipped with a combined impedance/turbidity sensory technology by using 4 different optical wavelengths (BlueBox). The freezing point is calculated on the basis of the measured values that are ascertained.

The devices can store 20 different sets of calibration data. Various types of milk, e.g. full-cream milk, skim milk, cream, etc. can be analysed. The user can change from one product to another without having to undertake a new calibration.

- Sample capacity of up to 90/h
- Menu is available in many different languages including English, French, German and Spanish
- User friendly display
- Easy to calibrate
- The pump head can be replaced easily without the use of tools
- Automatic maintenance: Rinsing, cleaning and zero point calibration

Parameter	Measuring range	Repeatability
Fat	0,00 - 40,00 %	± 0,02 %
Protein	0,00 - 10,00 %	± 0,03 %
Lactose	0,00 - 10,00 %	± 0,03 %
SNF	0,00 - 15,00 %	± 0,04 %
Minerals	0,00 - 5,00 %	± 0,02 %
Freezing point	Calculated value	± 0,02 °C

Flow rate (ml/min)	12 - 20
Connection	1× printer 1× PC (software included) USB
Mains voltage (V/Hz)	230 V/115 V AC - 50/60 Hz
W×D×H (mm)	330×433×200
Weight (kg)	15,7

Description	Pk	Cat. No.
LactoStar with 2 plastic canisters for cleaner and distilled water	1	224-0084

Accessories and spare parts		
Description	Pk	Cat. No.
Hose pump, complete for LactoStar	1	224-0087
Pump Head (attachment for hose pump) for LactoStar	1	224-0088
Cleaning agent, 500 ml, for LactoFlash and LactoStar instruments	500 ml	614-2052
Thermal printer, incl. 1× thermal paper roll, for LactoFlash, LactoStar and CryoStar instruments	1	614-2053
Thermal paper for printer	1 Roll	614-2054

Reference standards for dairy testing

Funke-Gerber

Sample type	Fat (%)	Pk	Cat. No.
Milk	0,1	1	GERB3521
Milk	1,5	1	GERB3517
Milk	3,5	1	GERB3518
Cream	30	1	GERB3519

Jolting volumeter for measuring 'tapped volume' of powdered milk



This volumeter is designed to measure the compaction of dry powders - the difference between the free flowing volume and the the 'tapped' volume. The instrument can be used to determine the tapped density (packing density). The jolting mechanism raises the cylinder with a camshaft approximately 3 mm and allows it to drop under its own weight. This agitation settles the powder.

- Simple, easy to use controls
- Easy exchange of standard measuring cylinders
- Easy to clean

In accordance with DIN EN ISO 787-11:1995-10

Description	Pk	Cat. No.
Jolting volumeter, type STAV II with 250 ml measuring cylinder, 9 kg, 290×330×180 mm without measuring cylinder	1	614-0231

Accessories		
Description	Pk	Cat. No.
Spare measuring cylinder 250 ml for jolting volumeter	1	614-0232

Shakers

Funke-Gerber

Shakers for determining the fat content in milk according to Mojonnier's method. White PVC housing. Choice of models to accept 4, 6 or 36 Mojonnier extraction tubes. Units provide forceful, uniform and reproducible mixing.

- Timer, 0 to 15 min
- Produce 100 shakes per minute
- Model for 36 butyrometers is supplied with stand

Description	Pk	Cat. No.
Shaker for four Mojonnier tubes	1	614-0183
Shaker for six Mojonnier tubes	1	614-0184
Shaker and stand for thirty six Mojonnier tubes	1	614-0185

Accessories		
Description	Pk	Cat. No.
Cork stopper for extraction tubes, Mojonnier's method	1	614-0188
Extraction tubes, Mojonnier, with flattened bulb	1	614-0187
Extraction tubes, Mojonnier, with rounded bulb	1	614-0186
Stand, wooden, for 12 extraction tubes acc. to Mojonnier's method	1	614-0189

Extraktion tubes, Mojonnier

Funke-Gerber



According to Mojonnier's method. With cork stopper.

Description	Pk	Cat. No.
Extraction tubes, Mojonnier, with rounded bulb	1	614-0186
Extraction tubes, Mojonnier, with flattened bulb	1	614-0187

Accessories		
Description	Pk	Cat. No.
Cork stopper for extraction tubes, Mojonnier's method	1	614-0188
Stand, wooden, for 12 extraction tubes acc. to Mojonnier's method	1	614-0189

Reference Dryer RD-8

Funke-Gerber



The RD-8 was specifically developed in conjunction with COKZ (the Netherlands Controlling Authority for Milk and Milk products) for determining the moisture content of dried milk in accordance with ISO 5537, IDF 26. Up to eight samples can be tested simultaneously under accurately controlled temperature and pressure.

- Temperature is regulated by a PID system, and four PT100 sensors determine the temperature
- Constant pressure regulator maintains the airflow at 33 ml/min within the 8 drying capillaries

Type	Compartments	Temp. range (°C)	Heating capacity (kW)	W×D×H (mm)	Weight (kg)	Pk	Cat. No.
RD-8	8	... - 110	0,52	185×450×240	9,5	1	614-0200
Accessories							
Description						Pk	Cat. No.
Cap, PP						20	614-0203
Filter						100	614-0217
Inserting/loading tool, for positioning filter in sample container						1	614-0218
Lid for sample container, PP						20	614-0202
Sample container, PP						20	614-0201
Stand for lids and caps						1	614-0220
Weighing stand						1	614-0219

Water bath, digital, WB-436 D

Funke-Gerber



Digital water bath with stainless steel inner and outer casing. External heating elements are located separately within the casing. Ideal for dairy use, wide range of accessories is available, it is recommended to use distilled water with the bath.

- Digital temperture control and digital display of set and actual temperature
- PT100 sensor
- Timer 1 to 99 min with audible alarm
- Overheating protection (even when bath is empty)

Type	Temp. range (°C)	Heating capacity	Capacity (l)	Bath W×D×H (mm)	W×D×H (mm)	Weight (kg)	Pk	Cat. No.
WB-436 D	< 100	1,0	16	290×300×190	331×396×265	10	1	614-2062
Accessories								
Description				For		Pk	Cat. No.	
Brass butyrometer tubes, closed				Butyrometer stand		1	614-0181	
Brass butyrometer tubes, open				Butyrometer stand		1	614-0182	
Butyrometer stand, stainless steel				36 butyrometers		1	614-2064	
Delvo test insert						1	614-0180	
Mojonnier stand, stainless steel				10 Mojonnier tubes		1	614-0179	
Reductase insert				99 samples		1	614-2066	
Universal shelf, stainless steel						1	614-2065	

Cryoscopes, CryoStar
Funke-Gerber



Quick and reliable measurement of the freezing point of milk. The cooling system provides quick operational readiness even at high ambient temperatures (up to 32 °C).



- Easy to use, uncomplicated operation
- Multi-language menu
- Automatic calibration and settings history saved to non volatile memory
- Software included for mapping the freezing curve on a PC

Reference measurement in accordance with DIN/ISO/IDF5764

Description	Pk	Cat. No.
CryoStar I, single sample device with measuring head 240 mm	1	614-2060
CryoStar _{automatic} multi-sample device, with round magazine for 12 samples and measuring head 240 mm	1	614-0229

Calibration standards for CryoStar cryoscopes			
Description	Temperature	Pk	Cat. No.
Calibration standard 'A', 250 ml	0,000 °C	1	GERB7165
Calibration standard 'B', 250 ml	0,557 °C	1	GERB7166
Calibration standard A	0,408 °C	250 ml	GERB7186
Calibration standard B	0,600 °C	250 ml	GERB7187
Calibration standard C	0,512 °C	250 ml	GERB7188

Accessories			
Description	Pk	Cat. No.	
Replacement thermistor in accordance with ISO/DIN 5764	1	709-0115	
Sample tube with mark at 2,0 ml	50	614-0230	
Rack for 27 CryoStar sample tubes	1	709-0113	
Cooling bath liquid 500 ml in PE bottle	1	GERB7169	
Software	1	709-0114	
Connecting cable, 12 V DC	1	709-0116	
Thermal paper for printer	1 Roll	614-2054	
Thermal printer, incl. 1× thermal paper roll, for LactoFlash, LactoStar and CryoStar instruments	1	614-2053	

Acidity tester for milk

Funke-Gerber



Stainless steel, for determination of the degree of freshness of unpasteurised milk

Description	Pk	Cat. No.
Acidity tester	1	614-0190

Salt tester for dairy products

Funke-Gerber

Titration method with Dr Schilling pattern burettes and brown PE bottle

Description	Pk	Cat. No.
Salt test for butter using 10 ml burette with 0,05 ml divisions	1	614-0194
Salt test for cheese using 25 ml burette with 0,1 ml divisions	1	614-0195

Quantitative filter papers

Funke-Gerber



Round filter papers

Size (mm)	Pk	Cat. No.
Ø 32	1.000	512-0586

Filter papers with area for records, 80×45 mm

Size (mm)	Pk	Cat. No.
Ø 28	1.000	512-0587

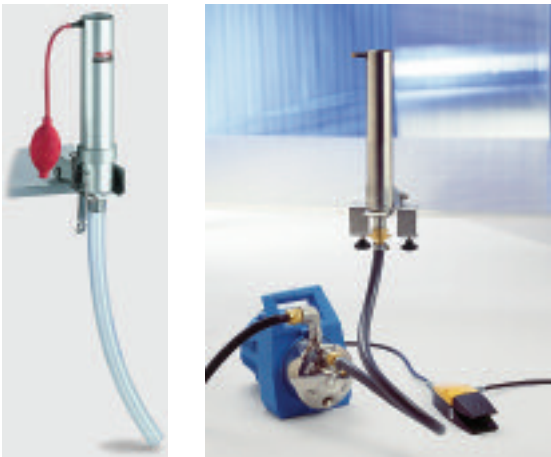
Reference table for milk sediment tester

- With 3 purity grades, German standard

Pk	Cat. No.
1	512-0588

Sediment testers for milk

Funke-Gerber



SEDILAB

Manual sediment tester.

- With clamp for attaching to tables

Material	Capacity (ml)	Type	Pk	Cat. No.
Stainless steel	500	SEDILAB	1	511-0076

SEDILAB-E

Pump design sediment tester for serial testing of liquids for particle contamination, particularly for sediment testing of milk.

- Splash-proof design
- Approx. 800 samples per hour
- Sharply defined sediment images

Capacity (ml)	Type	Pk	Cat. No.
500	SEDILAB-E	1	614-0196

Solubility index tube

Funke-Gerber



ADPI, graduated from 0-20 ml, mark at 50 ml.

Capacity (ml)	Type	Pk	Cat. No.
50	for SuperVario N centrifuge	1	614-0170

Accessories				
Description	No. of holes	Colour	Pk	Cat. No.
Rack for solubility index tube	6	White	1	614-0171

Special solubility index tube

Funke-Gerber



For determining the solubility of powdered milk.

Pk	Cat. No.
1	614-0233



Titration & Dispensing	188
pH- Measurement	191
Colorimetry	138
Refractometry	199
Moisture	200
Viscosity	202
Weighing	203
Glassware	205
Sealing	212
Separation Funnels	213
Metalware & Labjacks	214

Permanent automatic dispensers

Funke-Gerber



- Dedicated to milk analysis
- Ground-in measurement chamber and stopper
- One spout in accordance with DIN 10282

Capacity (ml)	Colour	Pk	Cat. No.
10	Clear	1	614-0142
1	Clear	1	614-0143

Accessories			
Description	Capacity (ml)	Pk	Cat. No.
Stand for permanent automatic dispenser with stand panel, stem and retaining ring with socket	10	1	614-0144
Stand for permanent automatic dispenser with stand panel, stem and retaining ring with socket	1	1	614-0145
Stand for two permanent automatic dispensers with stand panel, stem and retaining ring with socket	10 / 1	1	614-0146

Automatic tilt measures

Funke-Gerber



- Rubber stopper
- Superior quality models
 - Storage bottle of 500/250 ml
 - For milk analysis applications

Type	Capacity (ml)	Colour	Pk	Cat. No.
Amyl alcohol	1	Clear	1	614-0148
Sulphuric acid	10	Clear	1	614-0147

Automatic burettes, Dr. Schilling pattern, Schellbach

Hirschmann Laborgeräte



- DURAN® , borosilicate glass, silicone tubing, PVC rod, PE bottle and PP base
- Schellbach stripe, blue graduations
 - Automatic zeroing, squeezing bottle allows rapid filling, micrometer screw allows fine titration
- With bottle: 500 ml for 5 and 15 ml; 1000 ml for 15, 25 and 50 ml

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
5	0,05	0,03	1	612-9936
10	0,05	0,03	1	612-9937
15	0,1	0,045	1	612-9938
25	0,1	0,045	1	612-9939

Plastic foot for Schilling flasks		
Description	Pk	Cat. No.
PP base for 1000 ml Schilling bottles	1	612-2803

Automatic burettes, Dr. Schilling pattern, SILBERBRAND Brand



- AR-Glas® , class B**
- Calibrated to deliver 'Ex'
 - Schellbach stripe, reduced distance between subdivision marks
 - Automatic zeroing, squeezing bottle allows rapid filling, micrometer screw allows fine titration

DIN EN ISO 385

With bottle: 500 ml for 10 and 15 ml; 1000 ml for 25 and 50 ml

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
10	0,05	0,05	1	612-9920
15	0,1	0,08	1	612-9921
25	0,1	0,08	1	612-9922

Bottle-top dispensers



Variable volume, autoclavable

The standard PP unit with glass cylinder is suitable for aqueous liquids, dilute acids and alkalis - not for use with solvents and hydrofluoric acid which attacks PP. For bottles with GL 32 thread.

- Valve system with steel spring
- PP with precision glass cylinder
- Quick and easy to use volume setting system
- Additional rotating fine volume adjustment for right or left handed use
- Adaptor allows rotation of the dispenser on bottles to the desired position

Delivery information: Supplied with two adaptors (GL 40 and GL 45), certificate and individually numbered.

Volume (ml)	Division (ml)	Pk	Cat. No.
2 - 10	0,50	1	612-4750

Amber glass cylinder, clear glass piston with PP body

Suitable for light-sensitive liquids, compatible with PP.

Volume (ml)	Division (ml)	Pk	Cat. No.
10 - 50	1,00	1	612-3672



Bottle-top dispensers, Dispensette® III Brand



Fixed or variable volume, autoclavable

For dispensing aggressive reagents such as concentrated acids (e.g. H₃PO₄, H₂SO₄), concentrated alkalis (e.g. NaOH, KOH), saline solutions, and many organic solvents. Parts that are in contact with the liquid are made from borosilicate glass, ceramic, platinum-iridium, ETFE, FEP, PFA and PP (safety cap for the discharge tube). Colour code: Red.

- SafetyPrime™ valve (optional) for recirculation of reagent during priming
- Digital volume display for precise, reproducible dispensing - Easy Calibration models
- Conformity certified, easy calibration and adjustments according to ISO 9001 and GLP (Easy Calibration models)

Ordering information: Supplied with a discharge tube, telescopic filling tube, mounting tool, PP adapters, and a certificate of performance. SafetyPrime™ recirculation valve available separately.



Volume (ml)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.	
Fixed volume, with SafetyPrime™ recirculation valve					
10	±0,5	<0,1	1	613-3323	
Volume (ml)	Division (ml)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
Variable volume, without SafetyPrime™ recirculation valve					
0,05 - 0,5	0,01	±1,0	<0,2	1	613-3302
0,2 - 2	0,05	±0,5	<0,1	1	613-3304
0,5 - 5	0,10	±0,5	<0,1	1	613-3306
1,0 - 10	0,20	±0,5	<0,1	1	613-3308
2,5 - 25	0,50	±0,5	<0,1	1	613-3310
5,0 - 50	1,00	±0,5	<0,1	1	613-3312

Volume (ml)	Division (ml)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
Variable volume, without SafetyPrime™ recirculation valve					
10 - 100	1,00	±0,5	<0,1	1	613-3314
Variable volume, with SafetyPrime™ recirculation valve					
0,05 - 0,5	0,01	±1,0	<0,2	1	613-3303
0,2 - 2	0,05	±0,5	<0,1	1	613-3305
0,5 - 5	0,10	±0,5	<0,1	1	613-3307
1,0 - 10	0,20	±0,5	<0,1	1	613-3309
2,5 - 25	0,50	±0,5	<0,1	1	613-3311
5,0 - 50	1,00	±0,5	<0,1	1	613-3313

Titrator, food & beverage, DL 22

Mettler-Toledo



Specialised titrator for the food and beverage industry. Compact and easy to use, the DL 22 is supplied pre-programmed with the methods most commonly used in these industries and is able to automatically calculate results using pre-defined units, making it very convenient for the user.

- Whole range of food and beverage titration analyses, including concentration determination of oxidation products, free sulphur dioxide content, anti-oxidant content, salt (chloride) concentration, water quality and pH measurements and acid content
- Integrated database with pre-defined Mettler-Toledo methods, memory for user methods and selection lists for titrants and sensors
- Following automatic calculation with pre-defined units, results are stored and can be sent as a GLP-conforming report to a Mettler-Toledo RS-P26 printer, or other compatible printer
- Inputs: DG115 pH/mV sensor; balance, stirrer, Mettler-Toledo RS-P26 printer; PT1000 temperature sensor
- Intuitive and programmable interface, with integrated alphanumeric keypad and pictogram keys for most frequently used manual functions

Ordering information: Supplied with DG115 pH electrode, interchangeable DV1020 20 ml burette, connecting cable (for printers other than Mettler-Toledo) and protective cover.

Description	Pk	Cat. No.
Food & beverage analyser DL 22	1	661-5665
Accessories		
Description	Pk	Cat. No.
Standard beaker, PP, 100 ml	480	661-0120
Combined glass pH electrode DG115, fixed ground-glass sleeve junction, pH 0 - 14, 0 - 100 °C, 12×149,5 mm	1	662-2737
Compact printer RS-P26 with RS232C interface	1	661-0118
OKI B411d A4 laser printer, EU-plug	1	661-0122
Ink cartridge OKI B411d, black	1	661-0123

Indicator paper in rolls, DOSATEST®



DOSATEST® pH indicator test papers give very good precision and are very easy to read because they have 2 colour zones. The hydrophobic barrier between the zones ensures a distinctive separation of colour bands and facilitates the estimation of even intermediate values when used with the colour scale provided.

- Supplied as 5 m × 10 mm rolls (*except the 3 zone 35307.600 which is 6 m × 14 mm)
- Wide and narrow pH ranges available

Description	pH range	pH gradation	Pk	Cat. No.
pH indicator paper, DOSATEST®	1,0 - 4,3	0,3	5 Roll	35301.600
pH indicator paper, DOSATEST®	3,5 - 6,8	0,3	5 Roll	35302.603
pH indicator paper, DOSATEST®	1 - 11,0*	1	5 Roll	35307.600
pH indicator paper, DOSATEST®	7,0 - 10,0	0,3	5 Roll	70035.607
pH indicator paper, DOSATEST®	9,5 - 14,0	0,5	5 Roll	70036.601

pH/°C & ORP/°C meters, pH10 Pen & ORP15 Pen



Simple, compact instruments designed for quick accurate results in an economical pen format. Ideal for agriculture, education, fruit and vegetable washing, swimming pools, wastewater, pulp bleaching and aquaculture.

- LCD with a graphic display, IP 67 waterproof housing
- Replaceable electrodes
- Non volatile memory stores 50 sets of data (pH or absolute/relative ORP, temperature, date and time stamp)
- GLP functionality - saves and displays last calibration data
- AutoNon-volatile temperature compensation; automatic calibration and buffer recognition



Warranty: 1 year (instrument) / 6 months (electrode)

Model	pH10 Pen	ORP15 Pen
pH - range	0,00...+14,00	-
pH - resolution	0,01	-
pH - accuracy	±0,02	-
pH - calibration	1, 2 or 3 point	-
mV - range	-	±1200
mV - accuracy	-	1 ±1 last significant digit
Temperature range (°C)	0,0...+99,9	-5,0...+99,9
Temperature resolution (°C)	0,1	0,1
Temperature accuracy (°C)	±0,3	±0,3
Temperature ATC probe	Thermistor, 10 kΩ/25 °C	Thermistor, 10 kΩ/25 °C
Datalog - capacity	50	50
Display	LCD	LCD
Batteries	~35 h	~35 h
Weight (kg)	0,105 (with batteries)	0,105 (with batteries)
Compliance	IP 67 / GLP	IP 67 / GLP

Ordering information: Supplied with 8×LR44 batteries.

Description	Pk	Cat. No.
pH10 Pen	1	662-0121
ORP15 Pen	1	662-0126

Accessories		
Description	Pk	Cat. No.
Replacement pH electrode	1	662-0122
Replacement ORP electrode kit, incl. electrode, collar, 3×O-rings, sensor cap	1	662-0127
Replacement sensor cap	1	662-0123
Replacement battery compartment	1	662-0124
Button, alkaline manganese	1	139-2264
Carrying case, soft-sided, for VWR pH10 and ORP15 pen meters	1	662-1117

pH/mV/°C meter, handheld, FiveGo™ pH FG2

Mettler-Toledo



FiveGo™ pH FG2

Economical, handy, portable measuring instrument for rapid and reliable results. Suitable for a wide range of applications in various areas, such as the food and beverage industry, as well as water and environmental analysis.

- Ergonomic and compact design
- Five self-explanatory buttons for simply starting and ending a measurement or for accessing the latest calibration data
- Large, well organised LC display that can simultaneously show readings, temperature and endpoint criteria
- Storage capacity for up to 30 measurements, mV/ORP measuring mode and IP 54 protection
- Automatic endpoint recognition, automatic calibration, temperature compensation

pH - range	0,00...+14,00
pH - accuracy	±0,01
pH - calibration	Max. 2 points, 3 predefined buffer groups
mV - range	±1999
mV - accuracy	±1
Temperature range (°C)	0,0...+100,0
Temperature accuracy (°C)	±0,5
Display	LCD
Datalog - capacity	30 data sets
Connections	BNC/RCA (NTC 30 kOhm)
Power supply	4 AAA batteries 1,5 V
W×D×H (mm)	169×82×36
Weight (kg)	0,18
Compliance	IP54

Ordering information: Supplied with test certificate.

Description	Pk	Cat. No.
Handheld pH meter FiveGo™ pH FG2-Food Kit (incl. InLab® Solids Pro pH probe)	1 KIT	662-1223

Accessories		
Description	Pk	Cat. No.
Gel/Plastic pH electrode LE438 with integrated temperature probe, BNC/RCA, 1 m cable	1	662-2777
pH electrode LE427, plastic spear tip, S7	1	662-1119
Operating instructions 'Five pH'	1	662-2898



Carry bag

pH/mV/°C meter, handheld, SevenGo™ SG2

Mettler-Toledo



pH meter, tough, ergonomic and easy to use for routine field applications, even in difficult conditions.



- Clear display of measured values and settings
- Continuous indication of electrode and battery status (electrode diagnostic function)
- Automatic endpoint and buffer recognition as well as temperature compensation
- Data memory for 30 GLP data points
- Three-point calibration with predefined or user-defined buffers

pH - range	0,00...+14,00
pH - accuracy	±0,01
pH - calibration	3 points with 4 predefined or user-defined buffers
mV - range	±1999
mV - accuracy	±1
Temperature range (°C)	-5,0...+105,0
Temperature accuracy (°C)	±0,5
Datalog - capacity	30
Connections	BNC/RCA (NTC 30 kOhm)
Power supply	4×1,5 V AA batteries or 1,3 V rechargeable battery with NiMH cells
W×D×H (mm)	220×90×45
Weight (kg)	0,325 (without battery)
Compliance	IP 67, GLP

Description	Pk	Cat. No.
Handheld pH meter SevenGo™ SG2-Food kit (incl. LE427 pH electrode)	1	662-1243

pH/mV/°C/ion meter, bench, inoLab® pH/ION 735

WTW



Ideal for routine measurements or more complex analyses. Accurate, high resolution measurement of pH and ions can be controlled conveniently and easily via a graphical user interface.



- Recording of individual standard combinations for calibration and programmed, incremental functions
- Five-point calibration for measuring pH, and up to 7-point for measuring ions
- Documentation of results: Memory for 4500 entries, datalogger, bidirectional RS232 port, real-time clock, calibration reports conforming to GLP (all groups of data are supplied with the date, time, and a selectable ID number)
- Internal diagnostic function
- Mains or battery operation (220 VAC)

pH - range	−2,000...+20,000
pH - resolution	0,01 / 0,001
pH - accuracy	±0,004 / ±0,01
pH - calibration	MultiCal® automatic calibration (2 - 5 points)
ISE - range	0 - 999999
ISE - resolution	1, 2 or 3 significant digits
ISE - calibration	MultiCal® automatic calibration (2 - 7 points)
mV - range	±999,9 / ±2000
mV - accuracy	±0,2 / ±1
Temperature range (°C)	−5...+105 °C
Temperature accuracy (°C)	±0,1
Display	Backlit LCD
Connections	DIN
Datalog - capacity	Manual (600), automatic (4500), programmable
Outputs	Bidirectional RS232 port
Compliance	IP 43, GLP

Ordering information: Supplied without printer (integral printer available upon request).

Description	Pk	Cat. No.
inoLab® pH/ION 735 (DIN)	1	662-7060

Accessories		
Description	Pk	Cat. No.
pH electrode SenTix® 81, glass, KCl 3 mol/l electrolyte, temperature sensor, DIN+banana plug (1×4 mm), fixed 1 m cable	1	662-1315

pH/mV/°C meters, bench, inoLab® pH 7110
WTW



High quality instruments with advanced measuring technology, offering functions including automatic AutoRead, CMC (Continuous Measurement Control) and QSC (Quality Sensor Control) making measurements more convenient and reliable.



inoLab® 7110: Accurate measurements

The inoLab® 7110 series is perfectly suited for routine measurements in general laboratory applications. Whether measuring pH or conductivity in environmental, chemical, pharmaceutical, medical or food and beverage industries, this series offers advanced features in a simple to use package.

- AutoRead function ensures repeatable results
- Easy calibration including calibration timer
- Intuitive user-interface, large display and keypad with tactile feedback

Model	pH 7110
pH - range	−2,0...+20,0 / −2,00...+20,00 / −2,000...+19,999
pH - accuracy	±0,1 / ±0,01 / ±0,005
mV - range	±1200,0 / ±2000
mV - accuracy	±0,3 / ±1
Temperature range (°C)	−5,0...+105,0
Temperature accuracy (°C)	±0,1
Datalog - capacity	-
Display	7-segment LCD
Connections	-
Outputs	DIN or BNC / 4 mm banana
Power supply	Universal power supply, 4×1,5 V AA or 4×1,2 V NiMH-rechargeable battery

Ordering information: Supplied with universal power supply, stand, CD-ROM including software and USB cable. The application sets also includes sensors.

Description	Pk	Cat. No.
inoLab® pH 7110		

inoLab® pH 7110 Set 2 (DIN), instrument with combined pH electrode SenTix® 41, buffer 4, 7 and 10,01, storage solution	1	662-1349
--	---	----------

Accessories		
Description	Pk	Cat. No.
pH electrode SenTix® 41, plastic, gel electrolyte, temperature sensor, DIN+banana plug (1×4 mm), fixed 1 m cable	1	662-1305

pH/mV/°C Meter, Bench, FiveEasy™ FE20
Mettler-Toledo



FiveEasy™



Accessories

Economic instrument allowing rapid and reliable results. Suitable for a wide range of applications in various areas, such as the food and beverage industry, as well as water and environmental analysis. Power supply: 100 - 240 V / 50 - 60 Hz / 9 V DC.

- Ergonomic and compact design
- Five self-explanatory buttons for simply starting and ending a measurement or for accessing the latest calibration data at the press of a button
- Large, well organised LC display that can simultaneously show readings, temperature, endpoint criteria and various helpful icons, additionally facilitates rapid measurement and calibration
- Separate reference electrode input, mV/ORP measuring mode and a self-test
- Automated endpoint recognition and calibration with automated buffer recognition

pH - range	0,00...+14,00
pH - accuracy	±0,01
pH - calibration	Max. 2 points, 3 predefined buffer groups
mV - range	±1999
mV - accuracy	±1
Temperature range (°C)	0,0...+100,0
Temperature accuracy (°C)	±0,5
Display	LCD
Connections	BNC/RCA (NTC 30 kOhm)
W×D×H (mm)	200×175×52
Weight (kg)	0,6

Ordering Information:

FE20-Kit FiveEasy™ supplied with Quick guide, power adapter, glass pH electrode LE409, electrode arm and 4× buffer sachets (2× pH 4,01 and 2× pH 7,00).

Description	Pk	Cat. No.
Bench pH/mV/°C meter FiveEasy™ pH FE20-Kit	1	662-2782
Accessories		
Description	Pk	Cat. No.
Glass pH electrode LE409, BNC, 1 m cable	1	662-2894
Gel/Plastic pH electrode LE438 with integrated temperature probe, BNC/RCA, 1 m cable	1	662-2777
Power adapter FiveEasy™	1	662-2788
Electrode arm FiveEasy™	1	662-2789
Operating instructions 'Five pH'	1	662-2898

pH electrodes, SenTix® PLUS
WTW



SenTix® ORP

These proven and tested pH electrodes are easy to use and offer high quality and precision. The new optimised membrane glass guarantees quick measurement even at low temperatures. The easy to use fill-hole cover prevents electrolyte from leaking out during storage.

- SenTix® PLUS electrodes with gel electrolyte and a plastic body are robust and shock-proof. The membrane glass is optimally safe-guarded by a protective shield
- SenTix® PLUS electrodes with liquid electrolyte – the capillary effect of the platinum wire guarantees constant outflow and prevents contamination by precipitates or dirt even during changes in temperature; with new membrane glass for an even quicker response
- SenTix® HW and HWS electrodes: Electrolyte flow speed can be adjusted for optimal use

SenTix® PLUS electrodes (general applications: For use in the laboratory or for field work)						
Type	Material	Electrolyte	Ø×L (mm)	Connection	Pk	Cat. No.
SenTix® 21	Plastic	Gel	12×120	DIN, fixed 1 m cable	1	662-1302
SenTix® 21-3	Plastic	Gel	12×120	DIN, fixed 3 m cable	1	662-1303
SenTix® 22	Plastic	Gel	12×120	DIN, fixed 1 m cable	1	662-1304
SenTix® 61	Glass	KCl 3 mol/l, without Ag+	12×120	DIN, fixed 1 m cable	1	662-2151

* with integrated temperature probe (NTC 30 KOhm)

SenTix® PLUS special electrodes							
Type	Material	Electrolyte	Ø×L (mm)	Connection	For	Pk	Cat. No.
SenTix® MIC	Glass	KCl 3 mol/l, without Ag+	12/5×40/80	S7**	Small samples	1	662-1319
SenTix® ORP	-	-	12×120	S7**	Wastewater	1	662-1400

** without cable (available separately)

pH combination electrodes, loLine

SI Analytics



These electrodes have been developed for the most critical pH measurements in research and quality control, pharmacies, biotechnology and the food industry. They are 100% metal ion-free and hence ideally suited for measurements that are critical with respect to sample contamination by ions such as silver and for pH measurements in Tris buffers too.

- Longer service life with patented three chamber reservoir in the reference electrode
- Precise, fast measurements and improved stability of measurement values, especially with changing temperatures or at temperatures other than calibration point, due to iodine/iodide reference system with lower temperature sensitivity
- Free choice of the bridge electrolyte for an optimum adaptation to the sample due to double electrolyte system

Reference system: Iodine/iodide
Shaft material: Glass
Temperature range: -5...+100 °C
pH range: 0 - 14

Type	Diaphr.	Ø×L (mm)	Connection	For	Pk	Cat. No.
Without temperature sensor						
Spear membrane shape	Ceramic	12×120 (8×50/70)	S7	Insert measurement	1	662-6071

Cables for electrodes

SI Analytics

Description	Pk	Cat. No.
Cable LB1A with S7/DIN connections, 1 m length	1	662-6144
Cable LB1BNC with S7/BNC connections, 1 m length	1	662-6165

Buffer solutions, 20 °C AVS TITRINORM®



- Solutions prepared from AnalAR® NORMAPUR® products for analyses
- True analytical value on the label to an accuracy of ±0,2 pH units
- Traceable to SRM from NIST
- Batch number and packing date for traceability
- Certificate of analysis available from www.vwr.com

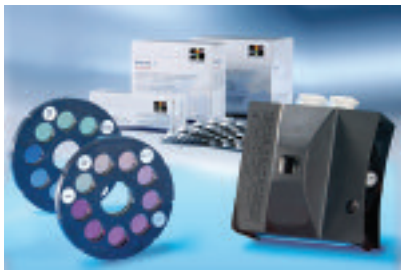
For full information concerning health and safety data please see the VWR Chemicals catalogue or the www.vwr.com website.

Ordering information: For the full pH range of buffers and details of other pack sizes, please see the VWR Chemicals catalogue. If significant large volumes are required please contact the VWR sales office for a customised offer.

Buffer solutions in bottles		
pH value	Pk	Cat. No.
1,00	1 l	32031.297
2,00	1 l	32032.291
3,00	1 l	32033.294
4,00 (red coloured)	500 ml	32044.268
4,00 (red coloured)	1 l	32044.292
4,00	500 ml	32095.264
4,00	1 l	32095.297
5,00	1 l	32035.291
6,00	1 l	32036.294
6,88	500 ml	83601.260
6,88	1 l	83601.290
7,00	500 ml	32096.267
7,00	1 l	32096.291

Buffer solutions in bottles		
pH value	Pk	Cat. No.
7,00 (green coloured)	500 ml	32045.262
7,00 (green coloured)	1 l	32045.295
8,00	1 l	32038.291
9,00 (blue coloured)	500 ml	32046.265
9,00 (blue coloured)	1 l	32046.298
9,00	500 ml	32039.261
9,00	1 l	32039.294
9,22	500 ml	32097.261
10,00	1 l	32040.298
11,00	1 l	32041.292
Colour coded buffer solutions in dosing bottles		
pH value	Pk	Cat. No.
4,00 (red coloured)	1 l	32044.290
7,00 (green coloured)	1 l	32045.290
9,00 (blue coloured)	1 l	32046.290
Buffer solution sets		
Description	Pk	Cat. No.
Buffer solution set pH 4,00 / 7,00 / 9,00 (100 ml)	1	83610.600
Buffer solutions set pH 4,00 / 7,00 / 9,00 (250 ml)	1	83610.610

Comparators, Lovibond® comparator system 2000+ Tintometer



The Comparator System 2000+ is a precise and general purpose colorimetric system for water testing. It is a high quality instrument for visually matching the intensity of the colour of the sample with Lovibond glass filters. It includes an adjustable cell compartment for samples in cells of up to 40 mm path length. Nessleriser 2150 and the 2250 are longer path length instruments for matching a column of a sample in a Nessler cylinder with Lovibond glass filters. They are designed for measuring concentrations that are below the sensitivity of the comparator 2000+.

- The integrated prism presents the glass standard discs and the coloured sample in the same field of vision, which allows for discrimination and matching of colours
- The prism is ultrasonically sealed to prevent contamination of the optics
- Each test disc is equipped with glass filters which guarantee a stability of colour, which do not fade and which can be changed easily without having to open the apparatus
- Allows for the compensation of water samples that are turbid or tinted
- Each comparator is available as a natural daylight option or can be used with the standardised Daylight 2000 lighting unit or a portable lighting unit

Description	Pk	Cat. No.
Comparator 2000+	1	705-0335
Nessleriser 2150 with stand	1	705-0343
Nessleriser 2150 with stand, Daylight 2000 lighting unit and pair of Nessler tubes, 113 mm with plungers	1	705-0341
Nessleriser 2250 with stand	1	705-0344
Nessleriser 2250 with stand, Daylight 2000 lighting unit and pair of Nessler tubes, 250 mm with plungers	1	705-0342

Pocket refractometers with automatic temperature compensation



These robust refractometers are easy to use and deliver exact, consistent results. There are several different models with the relevant scale (°Brix, specific gravity, Oechsle) for juices, beverages, industrial liquids, etc.

- Automatic temperature compensation (ATC) between 10 °C and 30 °C delivers exact and reliable results
- Robust design
- Easy to read scales
- Easy to use and clean

Delivery information: Refractometer supplied in plastic box with pipette, instruction manual and adjustment tools.

Description	Range	Resolution	Pk	Cat. No.
Sugar	0 - 20 °Brix	0,1 °Brix	1	635-0165
Sugar	0 - 50 °Brix	0,5 °Brix	1	635-0167
Sugar	28 - 62 °Brix	0,2 °Brix	1	635-0168

Portable refractometers, digital, PAL series

Atago



The PAL series of handheld digital refractometers are pocket sized, battery operated instruments that are easy to use, delivering rapid results.

- Automatic temperature compensation (ATC) from 10 to 100 °C for PAL-1/2/3
- Simple single-handed operation
- IP 65 allows rinsing off the sample with running water

Sample size (ml)	0,3
Response time	3 seconds (typical)
Power supply	2× AAA batteries
W×D×H (mm)	55×31×109
Weight (g)	100

Delivery information: Supplied with storage case, pipette and instruction manual.

Description	Range	Precision	Resolution	Pk	Cat. No.
PAL-2	45 - 93 °Brix	±0,2 °Brix	0,1 °Brix	1	635-0154
PAL-91S Coolant, ethylene glycol % / freezing point	0 - 70% / -50...0	±0,4% / ±1	0,2% / 1	1	635-0160

There are over 80 special scales for the PAL series available on request for a variety of products; dextran, fructose, glucose, lactose, maltose, honey, soya milk, sea water, citric acid.

Basic moisture analysers, MB23 and MB25

Ohaus



MB23

MB25

Providing accurate and reproducible results at either 0,1% or 0,05% readability, these basic models are ideal for food, cotton, wastewater, ceramics, animal feed and other applications that only require measurement accuracy to approx 0,1%.

- No menu - simply set drying parameters of time and temperature for easy operation
- MB 23 has IR heating with no glass components, making it suitable for glass-free environments
- Extremely compact and easy to disassemble and clean

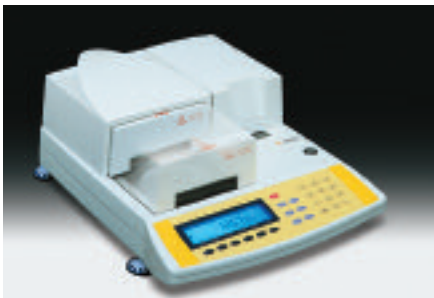
Model	MB23	MB25
Capacity (g)	110	110
Sample size (ml)	3 g to 20 g (typical); minimum 0,5 g	3 g to 20 g (typical); minimum 0,5 g
Readability (%) / (mg)	0,1 / 10	0,05 / 5
Repeatability (Std. Dev. %)	0,3 (3 g sample) 0,2 (10 g sample)	0,20 (3 g sample) 0,05 (10 g sample)
Displayed results	% moisture or % solids or weight (g), time, temperature	
Display	Custom backlit LCD	Custom backlit LCD
Moisture range (%)	0,01 to 100	0,01 to 100
Heater type	IR	Halogen
Temperature range (°C)	50 to 160 (5 °C increments)	50 to 160 (5 °C increments)
Timer	1 - 99 minutes, 30 second increments to 60 minutes	1 - 99 minutes, 30 second increments to 60 minutes
Pan size (Ø mm)	90	90
W×D×H (mm)	170×130×280	170×130×280

Description	Pk	Cat. No.
MB23	1	611-3869
MB25	1	611-3870

Accessories		
Description	Pk	Cat. No.
Printer paper roll for CBM910	1	611-3885
Sample pans, disposable	80	611-0604
Pads, glass fibre	200	611-1884
Sample pans, reusable	3	611-0605

Moisture analysers, MA series

Sartorius Mechatronics



MA100



MA150

The range has been rationalised to provide a range of analysers to suit most requirements of price, practicality and performance. All models offer fully automatic endpoint determination, continuously monitoring the drying curve and stopping the process once the sample reaches constant weight. A range (OCE suffix) of verified versions for use in legal metrology in the European Economic area is available.

MA150

The MA150, which replaces and updates the MA45, MA145 and MA50, is a rugged instrument capable of measuring routine samples up to 150 g and it also has the flexibility with a choice of 20 drying routines and choice of heat source to measure non routine and more sensitive samples. External calibration requires 100 g weight.

MA100

The MA100 is the most accurate, flexible, configurable model of the range with a user friendly keyboard and software prompts to easily access all the modes of operation and data input. It has the following additional features:

- SPRM- enables the operating parameters to be adapted to the results of an available reference method and be saved as a drying routine
- Access to sample chamber by motorised cover incorporating the heating unit that reduces interfering effects
- Password protection of parameters
- Built-in calibration weight

Model	MA100	MA150
Capacity (g)	100	150
Readability (%) / (mg)	0,001 / 0,1	0,01 / 1
Repeatability (Std. Dev. %)	±0,1(>1 g)	±0,2 (>1 g)
Endpoint/analysis mode	Fully automatic, semi-automatic, timer settings, combinations	Fully automatic, semi-automatic
Displayed results	% moisture; % dry weight; % Ratio; g residue; g/kg residue; mg weight loss; Calculated value	% moisture; % dry weight; % Ratio; g residue; g/kg residue; g/l residue; mg weight loss;
Display	LCD	LCD
Cover	Motorised	Flip up
Heater type	Ceramic or coiled quartz or halogen	Ceramic or coiled quartz
Temperature range (°C)	30 - 230 (1 °C increments)	40 - 220 (1 °C increments)
Programme memory	30	20
Housing W×D×H (mm)	350×453×156	213×320×180,5

Description	Pk	Cat. No.
MA100Q, quartz-glass elements with glass panels	1	611-1609
MA150C, ceramic elements with glass panels	1	611-1610

Accessories		
Description	Pk	Cat. No.
Glass fibre filters	80	611-0739
Disposable sample pans, aluminium	80	611-0741

Aluminium foil discs



- Pure aluminium, 99,0 - 99,5%**
- Can be used for a wide variety of laboratory tasks.
- Economical large packs
 - Tissue paper is inserted between discs to facilitate handling
 - Simple storage and removal from dispenser

Ø (mm)	Thickness (µm)	Pk	Cat. No.
80	30	1.000	611-9001
130	30	1.000	611-9004

Rotational viscometers, Alpha series



- A basic, simple robust entry level viscometer for routine measurement in quality control and R&D laboratories. The 6 touch-key user interface enables the user to easily navigate the programme menu and decide on what is included in the readout. The readout includes selected speed (rpm); selected spindle; viscosity reading (cP) and selected spindle (SP)
- Precision of ±1% full scale and resolution of 0,1 for viscosity range lower than 10 000 cP
 - AUTO-TEST , AUTO-RANGE functions
 - AISI 316 stainless steel spindles – marked and easily identifiable
 - User-enabled calibration

Delivery information: Supplied with standard spindles (four for the L model and six for the R and H models); viscometer stand and spindle protector

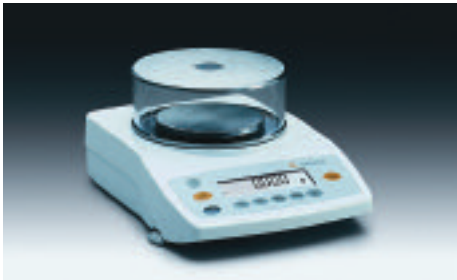
Model	Range	Revolutions (min ⁻¹)	No. of speeds	Pk	Cat. No.
Alpha L	20 - 2×10 ⁶ cP	0,3 - 100	18	1	616-0083
Alpha R	100 - 13×10 ⁶ cP	0,3 - 100	18	1	616-0084
Alpha H	200 - 106×10 ⁶ cP	0,3 - 100	18	1	616-0085

The viscometers are compatible with many major brands of spindles including Brookfield

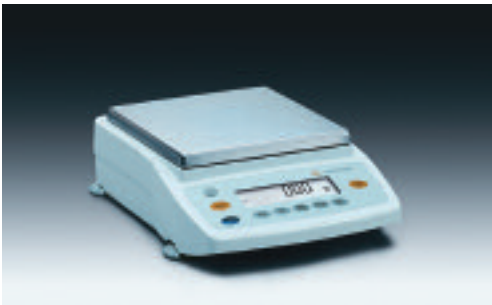
Accessories		
Description	Pk	Cat. No.
External digital temperature probe	1	616-0100

Precision balances, Extend series

Sartorius Mechatronics



611-1469



611-1475

The Extend range is designed with daily routine laboratory operations in mind. The range incorporates improved microprocessor control and monolithic weigh cell technology that delivers very fast response and outstanding repeatability and reliability. The rugged design features a ABS housing, a backlit high-contrast display, a stainless steel pan and plain text prompts with a level indicator on the front panel. Simple icons for the built-in applications programmes include % weighing, dynamic weighing, net total formulation and counting.

- ISO/GLP compliant data can be recorded via an RS232 port to a PC or optional printer or alternatively via a USB connection kit
- Built-in motorised calibration weight in precision balances with the -CW suffix ensures accuracy at a touch of a key
- Round draught shield on models* up to 620 g
- Capable of below balance weighing
- Average response times of 1,3 seconds or less

Model	Readability (g)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
ED623S*	0,001	620	Ø 115	1	611-1469
ED822-CW	0,01	820	Ø 150	1	611-1490
ED2202S	0,01	2200	180×180	1	611-1475

Analytical balances, Discovery

Ohaus



The Discovery series was designed for ease of operation in a laboratory or for industrial applications requiring precise measurements whilst ensuring traceable results to comply with GLP/GMP requirements, including RS232 interface for recording data to an optional printer or PC. The balances feature glass and steel construction, a large stainless steel pan and stability indicator. Multiple application modes include statistics, density, pipette calibration, dynamic weighing, check weighing and parts counting. The advanced Autocal™ feature automatically adjusts the balance when it senses a temperature change sufficient enough to affect accuracy. As importantly, the advanced AutoCal™ minimises weighing errors, by using two internal calibration weights to perform a linearity calibration.

- Superior repeatability and linearity performance
- Integral hook for below balance weighing
- Square three door glass and steel draught shield
- Two line backlit LCD and SmarText™ software to guide the user through set-up and applications
- Advanced Autocal™; internal calibration with two weights to perform linearity calibration

Ordering information: OIML EC Type approved models with Autocal™ (designated CM e.g. DV214CM) are also available on request.

Model	Readability (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
DV214C	0,1	210	Ø 90	1	611-4192

Analytical balances, M-Pact series

Sartorius Mechatronics



These analytical balances are part of the M-class balances from Sartorius that present a reliable and very good value option to meet the demands of standard laboratory weighing applications.



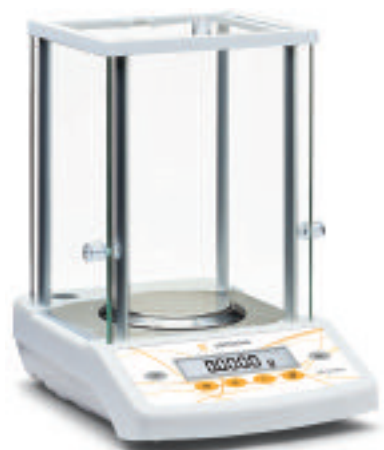
The M-Pact range are high performance laboratory balances with the latest microprocessor technology and monolithic weighing systems to deliver quick (average response times of just 3 seconds) and stable results. Simple operation with clear backlit display and multiple application modes, accessed with clear alphanumeric screen prompts.

- Internal motorised calibration adjustment weight on all models
- Linearity: $\pm 0,0003$ g; repeatability: $\leq 0,0002$ g
- Full GLP/GMP printout compliance
- RS232 interface as standard with optional USB adapter

Model	Readability (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
AX124	0,1	120	Ø 90	1	611-1943

Analytical balances, M-Power series

Sartorius Mechatronics



These analytical balances are part of the M-class balances from Sartorius that present a reliable, 'no frills' and very good value option to meet the demands of fast, accurate weighing.



The M-Power range are designed for use in universities and as an entry level laboratory balance. Rugged, reliable balances with average response times of 3 seconds. Optional external battery pack is available for field work or where AC supply is not available.

- Simple operation with clear, easy to read display
- Glass draught shield with three way accessibility
- Linearity: $\pm 0,0003$ g; repeatability: $\leq 0,0002$ g
- Simple external calibration with predefined calibration weights
- RS232 interface as standard with optional USB adapter

Model	Readability (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
AZ214	0,1	210	Ø 90	1	611-1933

Industrial scales, Ranger series

Ohaus



An economical bench scale that is designed to meet most requirements for industrial bench weighing applications. All versions are made from a rugged cast aluminium frame and have a stainless steel pan. Mains power supply with the option of a factory fitted rechargeable battery.



- Backlit LCD display with 16 mm digits for easy reading
- Levelling feet and bubble to help ensure rapid stabilisation
- Two platform/pan sizes
- External calibration

Ranger high resolution

Additional features:

- Magnetic Force Restoration load cell technology ensures high resolution

Model	Readability (g)	Weighing cap. (kg)	Pan (mm)	Pk	Cat. No.
RD3SM	0,01 / 0,1	0,6 / 3,1	165×165	1	611-3974

Beakers, low form



Grade 3.3 borosilicate glass, with spout

The economical alternative for a wide range of laboratory applications. Volume graduations and labelling area.

- Very good chemical resistance
- High temperature resistance
- Autoclavable

DIN 12331, ISO 3819

Capacity (ml)	Height (mm)	Ø ext. (mm)	Pk	Cat. No.
25	50	34	10	213-1120
50	60	42	10	213-1121
100	70	50	10	213-1122
150	80	60	10	213-1123
250	95	70	10	213-1124
400	110	80	10	213-1125
600	125	90	10	213-1126
800	135	100	10	213-1127



Beakers, low form
DURAN Group



DURAN®, borosilicate glass, with spout

Graduated for approximate reading of contents and labelling area (213-1101, 213-1102 and 213-1115 not graduated).

- Very good chemical resistance
- High temperature resistance
- Minimal thermal expansion, giving relatively high resistance to temperature changes

With printed retrace code (batch identification); batch certificate available at www.duran-group.com

DIN 12331 and ISO 3819 (except 213-1115)

Capacity (ml)	Height (mm)	Ø ext. (mm)	Pk	Cat. No.
25	50	34	1	213-1103
50	60	42	1	213-1104
100	70	50	1	213-1105
150	80	60	1	213-1106
250	95	70	1	213-1107
400	110	80	1	213-1108
600	125	90	1	213-1109
800	135	100	1	213-1110





Erlenmeyer flasks, narrow or wide mouth, with beaded rim



Borosilicate glass, grade 3.3

The economical alternative for a wide range of laboratory applications. Flasks have flared rim with markings for approximate volume graduations and a labelling area.

- Very good chemical resistance
- High temperature resistance
- Minimal thermal expansion, giving relatively high resistance to temperature changes

ISO 1773 (narrow mouth)
DIN ISO 24450 (wide mouth)

Capacity (ml)	Neck Ø ext. (mm)	Ø ext. (mm)	Height (mm)	Pk	Cat. No.
Narrow mouth					
5000	50	220	365	1	214-1137
Wide mouth					
50	34	51	85	10	214-1170
100	34	64	105	10	214-1171
200	50	79	131	10	214-0158
250	50	85	140	10	214-1172
300	50	87	156	10	214-1173
500	50	105	175	10	214-1174
1000	50	131	220	10	214-1175



Erlenmeyer flasks, narrow or wide mouth, with beaded rim

DURAN Group



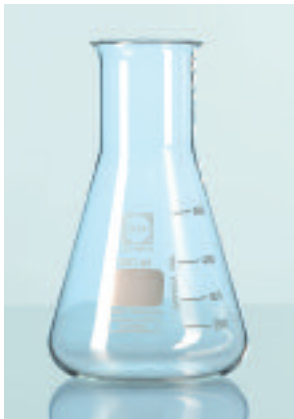
DURAN®, borosilicate glass, clear

Volume graduations and labelling area.

- Very good chemical resistance
- High temperature resistance
- Minimal thermal expansion, giving relatively high resistance to temperature changes

With printed retrace code (batch identification); batch certificate available at www.duran-group.com
DIN ISO 24450 wide mouth (except 214-1152 and 214-1168)

Capacity (ml)	Neck Ø ext. (mm)	Ø ext. (mm)	Height (mm)	Pk	Cat. No.
Wide mouth					
25	31	43	70	1	214-1152
50	34	51	85	1	214-1154
100	34	64	105	1	214-1156
200	50	79	131	1	214-1158
250	50	85	140	1	214-1160
300	50	87	156	1	214-1162
500	50	105	175	1	214-1164
1000	50	131	220	1	214-1166



214-1160

Measuring cylinders



Borosilicate glass, tall form, class A

- Calibrated to contain (TC, In)
- Hexagonal glass base, with spout
- Blue graduations with ring marks at major graduations
- Certificate of conformity with batch number

DIN 12680

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
25	0,5	0,25	2	612-3834
50	1	0,5	2	612-3835
100	1	0,5	2	612-3836
250	2	1	2	612-3837
500	5	2,5	2	612-3838

Measuring cylinders, BLAUBRAND®
Brand



DURAN®, borosilicate glass, tall form, class A, conformity certified

- Calibrated to contain (TC, In)
- Hexagonal glass base, with spout
- Ring marks at major graduations, marks and inscriptions in high contrast blue enamel

DIN EN ISO 4788

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
25	0,5	0,25	170	2	612-5017
50	1	0,5	200	2	612-5018
100	1	0,5	260	2	612-5019
250	2	1	335	2	612-5020
500	5	2,5	365	2	612-5021

Measuring cylinders
Hirschmann Laborgeräte



DURAN®, borosilicate glass, tall form, class A

- Calibrated to contain 'In', certificate of conformity with dated batch identification (available on internet: www.hirschmannlab.de)
- Hexagonal glass base, with spout
- Blue graduations with ring marks at major graduations

DIN EN ISO 4788

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
25	0,5	0,25	170	2	612-1519
50	1	0,5	200	2	612-1520
100	1,0	0,5	260	2	612-1521
250	2,0	1	335	2	612-1522
500	5,0	2,5	390	2	612-1523

Mixing measuring cylinders, BLAUBRAND®

Brand



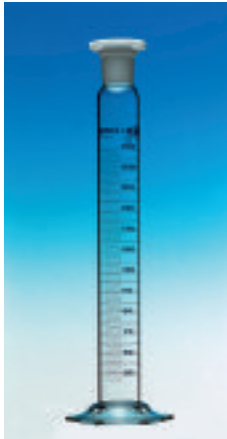
- DURAN® , borosilicate glass, class A, conformity certified**
- Calibrated to contain (TC, In)
 - Hexagonal glass base, PP stopper (except for 612-5028 and 612-5029 octagonal PE stopper)
 - Ring marks at major graduations, marks and inscriptions in high contrast blue enamel
- DIN EN ISO 4788

Capacity (ml)	Division (ml)	NS	Height (mm)	Pk	Cat. No.
50	1	19/26	220*	2	612-5025
100	1	24/29	285*	2	612-5026

* Height without stopper

Mixing measuring cylinders

Hirschmann Laborgeräte



- DURAN® , borosilicate glass, with PE stopper, class A**
- Calibrated to contain 'In', certificate of conformity with dated batch identification available on internet (www.hirschmannlab.de)
 - Hexagonal glass base, NS ground
 - Main point graduations, blue graduations
- DIN 12 685 T2

Capacity (ml)	Division (ml)	NS	Height (mm)	Pk	Cat. No.
50	1	19/26	226	2	612-1527
100	1	24/29	290	2	612-1528

Volumetric flasks, class A, blue graduation



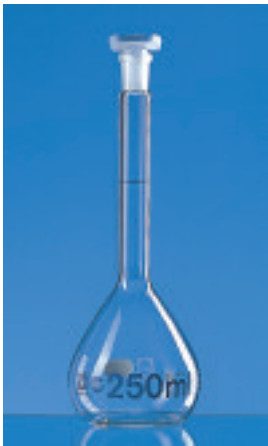
- Borosilicate glass, with PE stopper**
- Marks and inscriptions in blue enamel
 - Certificate of conformity with batch number
 - Calibrated to contain (TC, In)
- DIN EN ISO 1042

Capacity (ml)	NS	Tolerance	Pk	Cat. No.
50	12/21	0,060 ± ml	2	612-3743
100	14/23	0,100 ± ml	2	612-3744
200	14/23	0,150 ± ml	2	612-3745
250	14/23	0,150 ± ml	2	612-3746



Volumetric flasks, class A, blue graduation

Brand



BLAUBRAND® , DURAN® , borosilicate glass, with PP stopper

- Calibrated to contain (TC, In)
- Marks and inscriptions in high contrast blue enamel
- Conformity certified

DIN EN ISO 1042

Capacity (ml)	Tolerance (± ml)	NS	Wide mouth	Pk	Cat. No.
25	0,04	10/19	-	2	612-5076
50	0,06	12/21	-	2	612-5077
200	0,15	14/23	-	2	612-5079
250	0,15	14/23	-	2	612-5080

Volumetric flasks, class A, blue graduation

Hirschmann Laborgeräte



DURAN® , borosilicate glass, with PP stopper

- Blue enamelled indelible markings resistant to acids and alkalis
- Certificate of conformity with dated batch identification available on internet (www.hirschmannlab.de)

DIN EN ISO 1042

Capacity (ml)	Tolerance (± ml)	NS	Wide mouth	Pk	Cat. No.
25	0,04	10/19	-	2	612-1563
50	0,06	12/21	-	2	612-1565
100	0,10	12/21	-	2	612-1567
200	0,15	14/23	-	2	612-1569
250	0,15	14/23	-	2	612-1570

Volumetric flasks, class A

VITLAB®



PMP, amber, with PP screw cap

- Individually calibrated
- With printed batch number, conformity certified
- Autoclavable at +121 °C. Cleaning up to +60 °C (Accuracy may be affected over +60 °C)

DIN EN ISO 1042

Capacity (ml)	Height (mm)	Thread	Tolerance	Pk	Cat. No.
10	90	GL 18	0,04 ml	1	612-3341
25	115	GL 18	0,04 ml	1	612-3342
50	150	GL 18	0,06 ml	1	612-3343
100	180	GL 18	0,10 ml	1	612-3344
250	235	GL 25	0,15 ml	1	612-3345
500	270	GL 25	0,25 ml	1	612-3346
1000	310	GL 32	0,40 ml	1	612-3347



Babcock bottles, without stopper

Funke-Gerber



Description	Pk	Cat. No.
for milk, 0 - 8 %	1	614-0137
for cream, 0 - 20 %	1	614-0138
for cream and cheese, 0 - 60 %	1	614-0139

Accessories		
Description	Pk	Cat. No.
Stopper, rubber, for sealing the bulbs of all weighing method butyrometers	100	614-2029

Bulb pipettes, BLAUBRAND®

Brand



Glass AR-Glas® , 1 mark, class AS, conformity certified

- AR-Glas®, produced according to DIN EN ISO 648
- Conformity certified, with batch certificate
- Calibrated to deliver, total delivery
- Ring mark and inscriptions in blue enamel
- Waiting time 5 secs

DIN EN ISO 648

Capacity (ml)	Tolerance (± ml)	Length (mm)	Pk	Cat. No.
1	0,008	300	1	612-1202
2	0,01	330	1	612-1203
5	0,015	400	1	612-1207
10	0,02	440	1	612-1212
20	0,03	510	1	612-1214
25	0,03	520	1	612-1215
50	0,05	540	1	612-1218
100	0,08	585	1	612-1219

Bulb pipettes

Hirschmann Laborgeräte



Glass AR-Glas® , 1 mark, class AS

- Calibrated to deliver 'Ex'
- Blue inscriptions
- Certificate of conformity with dated batch identification available on internet (www.hirschmannlab.de)

DIN EN ISO 648

Capacity (ml)	Tolerance (± ml)	Length (mm)	Pk	Cat. No.
1	0,007	300	1	612-1310
2	0,01	330	1	612-1311
5	0,015	400	1	612-1314
10	0,02	440	1	612-1315
20	0,03	510	1	612-1317
25	0,03	520	1	612-1318
50	0,05	540	1	612-1384
100	0,08	585	1	612-1320

Bulb pipettes

Funke-Gerber



Glass, 1 mark

Type	Capacity (ml)	Pk	Cat. No.
Amyl alcohol	1	1	614-0157
Cream	5	1	614-0160
Cream	5,05	1	614-0158
Sulphuric acid	10	1	614-0154
Milk	10,75	1	614-0155
Milk	11	1	614-0156
Water	5	1	614-0159
Short design	25	1	614-0162
Short design	50	1	614-0161

Weighing pipettes

Funke-Gerber

Curved

Capacity (ml)	Pk	Cat. No.
1	1	614-0149
2	1	614-0150
3	1	614-0151
5	1	614-0152
10	1	614-0153

Sealing film, PARAFILM® M



Universal, semi-transparent, highly elastic film designed for airtight and moisture proof sealing and many other applications. The film can be stretched up to 200% and forms an absolutely tight seal even with irregular shapes and areas.

- Resistant to polar substances such as saline solutions, inorganic acids and alkalis for up to 48 hours
- Effective temperature range -45 to +50 °C (melting point ~+60 °C)
- Odourless and taste free

Width (mm)	Length (m)	Pk	Cat. No.
50	75	1	291-1214
100	38	1	291-1213
100	75	1	291-1212
500	15	1	291-1211

Dispenser for PARAFILM® M sealing film



Clear acrylic

For clean storage and easy dispensing of PARAFILM® M sealing film.

- Designed for two rolls 50 mm wide or one roll 100 mm wide
- With serrated blade for easy cutting
- Easy to clean

Description	Pk	Cat. No.
Dispenser for PARAFILM® M sealing film	1	631-0726

Conical separating funnels

Lenz



DURAN® , borosilicate glass, with NS-PE stopper

Capacity (ml)	Division (ml)	Socket size (NS)	Pk	Cat. No.
With graduation and solid glass key				
100	5	19/26	1	527-1222
With graduation and PTFE key				
100	5	19/26	1	527-1202

Separating funnels, Squibb

Lenz



DURAN® , borosilicate glass, with NS-PE stopper

Capacity (ml)	Division (ml)	Socket size (NS)	Pk	Cat. No.
With graduation and solid glass key				
100	5	19/26	1	527-1991
With graduation and PTFE key				
100	5	19/26	1	527-1302
2000	50	29/32	1	527-1306

Clamps

Bochem



- Malleable cast iron**
- Jaws have cork inserts to protect clamped items
 - Without bosshead for fixing to stand
 - With wing screws for rapid easy fixing

DIN 12894

Spanning width (mm)	Pk	Cat. No.
25	1	241-7188
40	1	241-7189
60	1	241-7190

Laboratory stands, Labomeca®



- Tripod stands (A)**
- Cast iron tripod stand, hammer finish enamel, with steel support rod, nickel plated**
- Threaded hole
 - Support rod (three lengths available with different diameters)
 - Robust, secure stand

Description	Arm length (mm)	Pk	Cat. No.
Tripod stand (A) with rod 500 mm length, 8 mm Ø	115	1	241-0090
Tripod stand (A) with rod 800 mm length, 12 mm Ø	145	1	241-0091

- Support stands (F)**
- Cast iron stand base, painted with hammer finish, steel support rod, nickel plated**
- With centrally attached support rod.
- Firm, non slip stand
 - Available in three different sizes
 - Robust, corrosion resistant

Description	Length (mm)	Width (mm)	Pk	Cat. No.
Support stand (F) with rod 1000 mm length, 16 mm Ø	380	180	1	241-0101

Bossheads, universal, Labomeca®



- Light robust design
- With easy action, knurled screws for fixing

Material	Spanning width (mm)	Pk	Cat. No.
Stainless steel	2 - 16	2	241-0109
Aluminium bronze	8 - 27	2	241-0025

Laboratory jacks



Aluminium, with stainless steel plates

High-quality, stable and inexpensive range of lifting platforms for a variety of uses. With plates made from matt, brushed, non-rusting stainless steel, and smooth-running aluminum frame with scissor action. Rubber feet ensure stable support.

- Ergonomically designed height adjustment knob for easy operation
- Available with several different platform sizes
- With 10 mm hole for stands (not 245-1220)

Plate size (mm)	Max. static load capacity (kg)	Working height (mm)	Pk	Cat. No.
75×80	15	49 - 147	1	245-1220
120×140	30	60 - 243	1	245-1221
130×160	60	65 - 255	1	245-1222
200×200	80	70 - 260	1	245-1223
240×240	80	60 - 265	1	245-1226
300×300	80	130 - 470	1	245-1227
400×400	80	165 - 615	1	245-1228

Chemicals & Reagents

218

Analytical
Laboratory Chemicals

Acids

Description	Pk	Cat. No.
DL-Lactic acid 80%	1 kg	L14259.0B
DL-Lactic acid 90% GPR RECTAPUR® pure	1 l	20356.298
Hydrochloric acid 0,1 mol/l (0,1 N) aqueous solution Reag. Ph. Eur. AVS TITRINORM volumetric solution	1 l	31955.293
Hydrochloric acid 0,2 mol/l (0,2 N) AVS TITRINORM® volumetric solution	1 l	31983.290
Hydrochloric acid 1 mol/l (1 N) AVS TITRINORM® volumetric solution	1 l	30024.290
Hydrochloric acid 2 mol/l (2 N) AVS TITRINORM® volumetric solution	1 l	30025.293
Hydrochloric acid 4 mol/l (4 N) VOLUSOL® volumetric solution	1 l	310701.1000
Hydrochloric acid 6 mol/l (6 N) AVS TITRINORM® volumetric solution	5 l	2611.5000
Hydrochloric acid 25% AnalAR NORMAPUR® analytical reagent	2,5 l	20257.321
Hydrochloric acid fuming 37% AnalAR NORMAPUR® ACS, ISO, Reag.Ph.Eur. analytical reagent	1 l	20252.290
Hydrochloric acid fuming 37% AnalAR NORMAPUR® ACS, ISO, Reag.Ph.Eur. analytical reagent	2,5 l	20252.324
Nitric acid 1 mol/l (1 N) aqueous solution AVS TITRINORM® volumetric solution	1 l	30065.291
Nitric acid 65% AnalAR NORMAPUR® analytical reagent	1 l	20429.291
Nitric acid 65% AnalAR NORMAPUR® analytical reagent	2,5 l	20429.320
ortho-Boric acid 40 g/l aqueous solution with indicator for Kjeldahl determinations	2,5 l	192316H
ortho-Boric acid crystallised AnalAR NORMAPUR® analytical reagent	1 kg	20185.297
ortho-Boric acid 10 g/l aqueous solution with indicator (green) VOLUSOL®	5 l	5732.5000
ortho-Boric acid 20 g/l aqueous solution	5 l	2733.5000
ortho-Boric acid 40 g/l aqueous solution	5 l	5792.5000
Perchloric acid 60% AnalAR NORMAPUR® analytical reagent	2,5 l	20583.327
Perchloric acid 0,1 mol/l (0,1 N) solution in anhydrous acetic acid AVS TITRINORM® volumetric solution	1 l	30110.297
Perchloric acid 1 mol/l (1 N) aqueous solution AVS TITRINORM® volumetric solution	1 l	30111.291
Sulphuric acid 95% AnalAR NORMAPUR® ACS, ISO, Reag.Ph.Eur. analytical reagent	1 l	20700.298
Sulphuric acid 95% AnalAR NORMAPUR® ACS, ISO, Reag.Ph.Eur. analytical reagent	2,5 l	20700.323
Sulphuric acid 98% AnalAR NORMAPUR® analytical reagent	1 l	102765G
Sulphuric acid 98% AnalAR NORMAPUR® analytical reagent	2,5 l	102766H
Sulphuric acid 90% for milk analysis	1 l	20695.290
Sulphuric acid 90% for milk analysis	2,5 l	20695.324
Sulphuric acid 62% (50% vol.) for the determination of fats in cheese according to Gerber	1 l	84509.290
Sulphuric acid 62% (50% vol.) for the determination of fats in cheese according to Gerber	5 l	84509.360
Sulphuric acid 0.02 mol/l (0.04 N) aqueous solution AVS TITRINORM® volumetric solution	1 l	30146.291
Sulphuric acid 0.05 mol/l (0.1 N) aqueous solution AVS TITRINORM® volumetric solution	1 l	30150.295
Sulphuric acid 0.1 mol/l (0.2 N) aqueous solution AVS TITRINORM® volumetric solution	1 l	30145.297
Sulphuric acid 0.5 mol/l (1 N) aqueous solution AVS TITRINORM® volumetric solution	1 l	30144.294
Sulphuric acid 1 mol/l (2 N) aqueous solution AVS TITRINORM® volumetric solution	1 l	30149.291
Sulphuric acid 1 mol/l (2 N) aqueous solution AVS TITRINORM® volumetric solution	5 l	30149.371

Alkalis

Description	Pk	Cat. No.
Potassium hydroxide 0.1 mol/l (0.1 N) aqueous solution AVS TITRINORM® volumetric solution	1 l	31780.298
Potassium hydroxide 0.1 mol/l (0.1 N) ethanol solution AVS TITRINORM® volumetric solution	1 l	31303.291
Potassium hydroxide 0.1 mol/l (0.1 N) methanol solution AVS TITRINORM® volumetric solution	1 l	32304.291
Potassium hydroxide 1 mol/l (1 N) aqueous solution AVS TITRINORM® volumetric solution	1 l	31300.291
Potassium hydroxide 2 mol/l (2 N) methanol solution AVS TITRINORM® volumetric solution	1 l	32199.296
Sodium hydroxide 32% aqueous solution pure for nitrogen analysis	5 l	9913.5000
Sodium hydroxide 35% aqueous solution GPR RECTAPUR®	5 l	28224.365
Sodium hydroxide 40% aqueous solution low in nitrogen	5 l	191536N
Sodium hydroxide 30% (w/w) (40% (w/v)) aqueous solution AnalAR NORMAPUR® analytical reagent	2,5 l	28226.327
Sodium hydroxide 0.04 mol/l (0.04 N) aqueous solution AVS TITRINORM® volumetric solution	1 l	31769.290
Sodium hydroxide 0.111 mol/l (0.111 N) aqueous solution AVS TITRINORM® volumetric solution, for milk acidity analysis according to Dornic	5 l	31760.368
Sodium hydroxide 0.2 mol/l (0.2 N) aqueous solution AVS TITRINORM® volumetric solution	1 l	31952.293
Sodium hydroxide 0,5 mol/l 0,5 N aqueous solution Reag. Ph. Eur. AVS TITRINORM volumetric solution	1 l	31951.290
Sodium hydroxide 2 mol/l (2 N) aqueous solution AVS TITRINORM® volumetric solution	1 l	98108.290
Sodium hydroxide 1 mol/l 1 N aqueous solution Reag. Ph. Eur. AVS TITRINORM volumetric solution	1 l	31627.290
Sodium hydroxide pellets AnalAR NORMAPUR® ACS, ISO, Reag.Ph.Eur. analytical reagent	1 kg	28244.295

Dyes and indicators

Description	Pk	Cat. No.
Resazurin tablets for milk analysis	100 Tab.	330884Y
Methylene blue for microscopy	25 g	3470.0025
Methylene blue NZ TECHNICAL extra	500 g	34560.265

Inorganic salts

Description	Pk	Cat. No.
Potassium iodide AnalAR NORMAPUR® analytical reagent	500 g	26846.268
Potassium iodide AnalAR NORMAPUR® analytical reagent	1 kg	26846.292
Sodium chloride AnalAR NORMAPUR® ACS, ISO, Reag.Ph.Eur. analytical reagent	500 g	27810.262
Sodium chloride AnalAR NORMAPUR	1 kg	27810.295

Solvents

Description	Pk	Cat. No.
2-Propanol Analar® NORMAPUR® (plastic bottle)	1 l	20842.312
2-Propanol Analar® NORMAPUR® (plastic bottle)	2,5 l	20842.330
Acetonitrile anhydrous (max. 0,003% H ₂ O) gradient grade for HPLC	1 l	83639.290
Acetonitrile anhydrous (max. 0,003% H ₂ O) gradient grade for HPLC	2,5 l	83639.320
Acetonitrile HiPerSolv CHROMANORM® for LC-MS	1 l	83640.290
Acetonitrile HiPerSolv CHROMANORM® for LC-MS	2,5 l	83640.320
Acetonitrile HiPerSolv CHROMANORM® gradient grade for HPLC	1 l	20060.290
Acetonitrile HiPerSolv CHROMANORM® gradient grade for HPLC	2,5 l	20060.320
Chloroform, stanilised with EtOH, HiPerSolv CHROMANORM® for HPLC	1 l	83627.290
Chloroform, stanilised with EtOH, HiPerSolv CHROMANORM® for HPLC	2,5 l	83627.320
Cyclohexane HiPerSolv CHROMANORM® for HPLC	1 l	83629.290
Cyclohexane HiPerSolv CHROMANORM® for HPLC	2,5 l	83629.320
Diethyl ether Analar NORMAPUR® ACS, ISO, Reag.Ph.Eur. analytical reagent	1 l	23811.292
Diethyl ether Analar NORMAPUR® ACS, ISO, Reag.Ph.Eur. analytical reagent	2,5 l	23811.326
Ethanol 95-97% (v/v) Analar NORMAPUR® analytical reagent	1 l	20823.293
Ethanol 95-97% (v/v) Analar NORMAPUR® analytical reagent	2,5 l	20823.327
Ethanol absolute Analar® NORMAPUR® (plastic bottle)	1 l	20821.310
Ethanol absolute Analar® NORMAPUR® (plastic bottle)	2,5 l	20821.330
Isoamyl alcohol Analar NORMAPUR® analytical reagent	1 l	20798.295
Isobutanol TECHNICAL	1 l	20835.294
Methanol Analar® NORMAPUR® ACS, ISO, Reag.Ph.Eur. analytical reagent (glass bottle)	1 l	20847.295
Methanol Analar® NORMAPUR® ACS, ISO, Reag.Ph.Eur. analytical reagent (glass bottle)	2,5 l	20847.320
Methanol HiPerSolv CHROMANORM® gradient grade for HPLC	1 l	20864.290
Methanol HiPerSolv CHROMANORM® gradient grade for HPLC	2,5 l	20864.320
Methanol HiPerSolv CHROMANORM® for LC-MS	1 l	83638.290
Methanol HiPerSolv CHROMANORM® for LC-MS	2,5 l	83638.320
n-Heptane HiPerSolv CHROMANORM® for HPLC	1 l	24539.290
n-Heptane HiPerSolv CHROMANORM® for HPLC	2,5 l	24539.320
n-Hexane 95% HiPerSolv CHROMANORM® for HPLC	1 l	24575.290
n-Hexane 95% HiPerSolv CHROMANORM® for HPLC	2,5 l	24575.320
Tetrahydrofuran HiPerSolv CHROMANORM® for HPLC	1 l	28559.290
Tetrahydrofuran HiPerSolv CHROMANORM® for HPLC	2,5 l	28559.320
Water Analar NORMAPUR® analytical reagent	5 l	102923C
Water HiPerSolv CHROMANORM® for LC-MS	1 l	83645.290
Water HiPerSolv CHROMANORM® for LC-MS	2,5 l	83645.320
Water HiPerSolv CHROMANORM® gradient grade for HPLC	2,5 l	83650.320

Miscellaneous chemicals for the dairy industry

Description	Pk	Cat. No.
Ammonia 28% Analar NORMAPUR® ACS, ISO, Reag.Ph.Eur. analytical reagent	1 l	21190.292
Ammonium thiocyanate 0.1 mol/l (0.1 N) aqueous solution AVS TITRINORM® volumetric solution	1 l	31961.294
Fehling's reagent I (Copper (II) sulphate solution, concentrated solution) for qualitative determination of reducing sugars	500 ml	31965.264
Fehling's reagent I (Copper (II) sulphate solution) for qualitative determination of reducing sugars	1 l	31963.291
Fehling's reagent II (L(+)-Potassium sodium tartrate in sodium hydroxide solution, concentrated solution) for qualitative determination of reducing sugars	500 ml	31966.267
Fehling's reagent II (L(+)-Potassium sodium tartrate in sodium hydroxide solution) for qualitative determination of reducing sugars	1 l	31964.294
Hydrogen peroxide 30% (100 volumes) aqueous solution Analar NORMAPUR® analytical reagent	1 l	23619.297
Iodine 0,05 mol/l (0,1 N) aqueous solution AVS TITRINORM® volumetric solution	1 l	30917.295
Iodine 0,5 mol/l (1 N) aqueous solution AVS TITRINORM® volumetric solution	1 l	30914.295
Potassium dichromate 0.04 mol/l (0.24 N) aqueous solution AVS TITRINORM® volumetric solution, for COD determination according to NFT 90-101 standard	1 l	30892.298
Potassium dichromate 0,04 mol/l (0,24 N) with mercury (II) sulphate 80 g/l in sulphuric acid solution AVS TITRINORM® volumetric solution, for COD determination in water	1 l	30891.295
Potassium dichromate 0.167 mol/l (1/6 mol/l, 1 N) aqueous solution AVS TITRINORM® volumetric solution	1 l	31396.291
Potassium permanganate 0.02 mol/l (0.1 N) aqueous solution AVS TITRINORM® volumetric solution	1 l	31455.295
Potassium permanganate 0.2 mol/l (1 N) aqueous solution AVS TITRINORM® volumetric solution	1 l	31451.292
Potassium thiocyanate 0.1 mol/l (0.1 N) aqueous solution AVS TITRINORM® volumetric solution	1 l	31481.295
Potassium thiocyanate 1 mol/l (1 N) aqueous solution AVS TITRINORM® volumetric solution	1 l	31480.292
Sand, Fontainbleau TECHNICAL	5 kg	27460.364
Silver nitrate 0.01 mol/l (0.01 N) aqueous solution AVS TITRINORM® volumetric solution	1 l	30476.291
Silver nitrate 0.1 mol/l (0.1 N) aqueous solution AVS TITRINORM® volumetric solution	1 l	30472.297
Silver nitrate 1 mol/l (1 N) aqueous solution AVS TITRINORM® volumetric solution	1 l	30471.294
Sodium thiosulphate 0.01 mol/l (0.01 N) aqueous solution VOLUSOL® volumetric solution	1 l	309337.1000
Sodium thiosulphate 0.1 mol/l (0.1 N) aqueous solution AVS TITRINORM® volumetric solution	1 l	31553.294
Sodium carbonate 0.5 mol/l (1 N) aqueous solution AVS TITRINORM® volumetric solution	1 l	31524.294
Sodium thiosulphate 1 mol/l (1 N) aqueous solution AVS TITRINORM® volumetric solution	1 l	31547.293

Quartz sand

Crystalline, calcined quality, grain size 0,6 to 1,2 mm

Description	Pk	Cat. No.
Quartz sand, washed	1 kg	GERB5460
Quartz sand, washed	3 kg	GERB5461
Quartz sand, washed	5 kg	GERB5462
Quartz sand, washed	10 kg	GERB5464
Quartz sand, washed	25 kg	GERB5463

Order Number	Page
0	
0132-500ML	160
0172-100G	160
0172-250G	160
0172-50G	160
0311-1L	160
0311-500ML	160
0341-100G	160
0341-1KG	160
0341-500G	160
0478-2PK	157
0496-1L	160
0496-500ML	160
0658-1L	157
0658-20L	157
0658-4L	157
0658-5L	157
0670-100G	157
0670-250G	157
0670-500G	157
0673-200G	160
0673-40G	160
0710-100G	156
0710-250G	156
0710-500G	156
0729-40G	160
0796-1.6L	157
0796-4L	157
0796-5L	157
0832-500ML	160
0912-2PK	157
1	
100063UA	119
100070ZA	119
100082XA	119
100121ZA	119
100191ZF	119
100291ZA	119
100331ZA	119
100371ZA	119
100460XF	119
100560ZA	119
100582JA	119
100582XA	119
100582ZA	119
100641ZA	119
100683AA	119
100720ZA	119
100742ZA	119
100774ZA	119
100793ZA	119
100911ZA	119
100980ZA	119
101023ZA	119
101114ZA	119
101141AA	119
101183ZA	119
101203ZA	119
101241AF	119
101241ZF	119
101274ZA	119
101294ZA	119
101370ZA	119
101591ZF	119
101874ZA	119
102765G	218
102766H	218
102770ZA	119
102898KA	119
102923C	219
102950IM	119
103660XF	119
112321TA	119
129-0010	7
129-0011	7
129-0012	7
129-0013	7
129-0293	7
129-0294	7
129-0295	7

Order Number	Page
129-0296	7
129-0297	7
129-0298	7
129-0299	7
129-0306	7
129-0307	7
129-0308	7
129-0309	7
129-0310	7
129-0311	7
129-0312	7
129-0313	7
129-0314	7
129-0315	7
129-0316	7
129-0317	7
129-0318	7
129-0319	7
129-0320	7
129-0321	7
129-0322	7
129-0323	7
129-0324	7
129-0325	7
129-0417	7
129-0418	7
129-0491	38
129-9831	6
129-9832	6
129-9833	6
129-9834	6
129-9835	6
129-9836	6
129-9837	6
129-9838	6
129-9839	6
129-9842	6
129-9843	6
129-9844	6
129-9845	6
129-9846	6
129-9847	6
129-9850	6
129-9851	6
129-9852	6
129-9853	6
129-9854	6
129-9855	6
129-9856	6
129-9859	6
129-9860	6
129-9861	6
129-9862	6
129-9863	6
129-9866	39
129-9867	39
129-9868	39
129-9869	39
129-9870	6
129-9872	39
129-9873	39
129-9874	39
129-9875	39
129-9876	6
129-9877	6
129-9878	6
129-9879	6
129-9880	6
129-9881	6
129-9882	6
129-9883	6
129-9884	7
129-9885	7
129-9886	7
129-9887	7
129-9888	7
129-9889	7
129-9890	7
132-0684	131
132-0685	131

Order Number	Page
135-6576	130
135-9151	130
135-9231	130
139-2264	191
141-0148	172
141-0248	128
141-1120	173
141-1327	171
141-1328	171
141-1329	171
141-1963	172
148-0062	127
148-0063	127
148-0065	127
148-0066	127
148-0104	128
148-0106	128
148-0111	128
148-0115	128
170082UA	119
170560ZA	119
170692ZA	119
170793NA	119
170793ZA	119
170980ZA	119
171-0053	25
171-0054	25
171-0133	25
171-0231	25
171-0332	26
171-0378	24
171-0395	25
171-0397	25
171-0398	26
171-0590	24
171-0591	24
171-0592	24
171-0593	25
171-0594	25
171-0595	24
171-0596	24
171-0597	24
171-0598	24
171-0599	25
171-0600	24
171-0601	24
171-0602	24
171-0603	24
171-0604	24
171-0605	24
171-0606	24
171-0607	24
171-0611	24
171-0626	25
171-0630	24
171-0631	24
171-0632	24
171-0633	24
171-0634	24
171-0635	24
171-0636	24
171-0637	24
171-0638	24
171-0639	24
171-0640	24
171-0641	25
171-0643	24
171-0713	25
171-0714	25
171-0755	25
171-0907	25-26
171-0930	25-26
171-0931	25
171-0936	26
171-0937	26
171-0938	26
171-0939	26
171-0941	26
171-0942	26
171-0943	26

Order Code Index

Order Number	Page	Order Number	Page	Order Number	Page
171-0944	26	212-0011	109	215-1515	108
171-0945	25	212-0013	109	215-1516	108
171-0946	25	212-0016	109	215-1517	108
171-0947	25	212-0019	109	215-1532	108
171-0948	25	212-0027	110	215-1533	108
171114ZA	119	212-0028	110	215-1534	108
171250ZA	119	212-0029	110	215-1535	108
171300ZA	119	212-0030	110	215-1537	108
172-0009	25	212-0031	110	215-1592	108
172-0010	24	212-0032	110	215-1593	108
172-5096	25	212-0307	110	215-1594	108
181-3471	23	212-0308	110	215-1595	108
181-3472	23	212-0309	110	215-2902	9
181-3473	23	212-0310	110	215-2903	9
181-3477	23	212-0311	110	215-2904	9
191536N	218	212-0312	110	215-2905	9
192316H	218	212-0313	110	215-2906	9
2		212-0314	110	215-2907	9
20060.290	219	212-0315	110	215-3113	8
20060.320	219	212-0316	110	215-3515	8
200802ZI	119	212-0317	110	215-3516	8
201023ZA	119	212-0318	110	215-3542	8
201023ZJ	119	212-0319	110	215-5630	8
20185.297	218	212-0320	110	215-5631	8
20252.290	218	212-0321	110	215-5632	8
20252.324	218	212-0322	110	215-5633	8
20257.321	218	212-0323	110	215-5634	8
20356.298	218	212-0324	110	215-5635	8
20429.291	218	213-0252	55	215-5636	8
20429.320	218	213-1101	205	215-5646	8
20583.327	218	213-1103	205	215-5647	8
20695.290	218	213-1104	205	215-5648	8
20695.324	218	213-1105	205	215-5649	8
20700.298	218	213-1106	205	215-9034	8
20700.323	218	213-1107	205	215-9035	8
20798.295	219	213-1108	205	215-9036	8
20821.310	219	213-1109	205	215-9037	8
20821.330	219	213-1110	205	215-9038	8
20823.293	219	213-1120	205	215-9039	8
20823.327	219	213-1121	205	215-9040	8
20835.294	219	213-1122	205	215-9041	8
20842.312	219	213-1123	205	215-9042	8
20842.330	219	213-1124	205	216-0094	14
20847.295	219	213-1125	205	216-0095	14
20847.320	219	213-1126	205	216-0417	13
20864.290	219	213-1127	205	216-0791	14
20864.320	219	213-3821	55	216-0792	14
211-0045	109	213-3822	55	216-0793	14
211-0070	109	213-3823	55	216-0794	14
211-0077	109	213-3824	55	216-0871	10
211-0078	109	213-3825	55	216-0872	10
211-0082	109	213-3826	55	216-0873	10
211-0083	109	214-0158	206	216-0874	11
211-0084	109	214-1102	206	216-0875	11
211-0085	109	214-1130	206	216-0876	12
211-0135	109	214-1137	206	216-0877	12
211-0136	109	214-1152	206	216-0878	12
211-0137	109	214-1154	206	216-0879	10
211-0198	147	214-1156	206	216-0880	10
211-0199	147	214-1158	206	216-2582	12
211-0262	147	214-1160	206	216-2583	12
211-0269	148	214-1162	206	216-2584	12-13
211-0276	147	214-1164	206	216-2585	13
211-0283	148	214-1166	206	216-2586	13
211-0290	148	214-1170	206	216-2587	13
211-0291	148	214-1171	206	216-2588	12
211-0297	147	214-1172	206	216-2589	12
211-0305	148	214-1173	206	216-2590	12
211-0312	148	214-1174	206	216-2591	13
211-0313	148	214-1175	206	216-2592	13
211-0315	148	215-0793	13	216-2594	13
211-0317	148	215-0919	8	216-2595	13
211-0339	150	215-1306	13	216-2596	13
211-0350	148	215-1307	13	216-2597	12
211-0381	150	215-1427	109	216-2598	12
211-3501	147	215-1428	109	216-2599	12
211-3502	147	215-1429	109	216-2600	13
211-3504	147	215-1512	108	216-2601	13
211-3505	147	215-1513	108	216-2602	13
21190.292	219	215-1514	108	216-2603	12

www.vwr.com

Order Code Index

Order Number	Page	Order Number	Page	Order Number	Page
31455.295	219	390-0297	64	391-2013	106
31480.292	219	390-0298	64	391-5930	110
31481.295	219	390-0299	64	391-5931	110
31524.294	219	390-0300	64	391-5932	110
31547.293	219	390-0301	64		
31553.294	219	390-0302	64	4	
31627.290	218	390-0303	64	400173ZA	120
31760.368	218	390-0304	64	400343VF	120
31769.290	218	390-0305	64	400582ZA	120
31780.298	218	390-0306	64	401183ZA	120
31951.290	218	390-0307	64	401203ZA	120
31952.293	218	390-0308	64	401274ZH	120
31955.293	218	390-0309	64	412-0099	72
31961.294	219	390-0310	64	412-0100	72
31963.291	219	390-0324	64	412-0101	72
31964.294	219	390-0325	64	412-0102	72
31965.264	219	390-0329	66	412-0103	72
31966.267	219	390-0350	63	412-0104	72
31983.290	218	390-0353	63	412-0105	72
320101.100	61	390-0358	66	412-0106	72
320201.100	61	390-0379	66	412-0107	72
320301.100	61	390-0384	62	430063ZA	120
32031.297	196	390-0385	62	431-0015	30
32032.291	196	390-0386	62	431-0016	30
32033.294	196	390-0387	62	431-0132	41
32035.291	196	390-0482	62	431-1047	34
32036.294	196	390-0483	62	431-2601	29
32038.291	197	390-0597	67	431-2602	29
32039.261	197	390-6034	65	431-2603	29
32039.294	197	390-6035	65	431-2880	29
32040.298	197	390-6037	65	431-2885	30
320401.100	61	390-6039	65	431-2890	29
32041.292	197	390-6041	65	431-2901	34
32044.268	196	390-6076	66	431-2907	34
32044.290	197	390-6080	66	431-2943	34
32044.292	196	390-6081	66	432-0000	41
32045.262	197	390-6146	65	432-0001	41
32045.290	197	391-0094	110	432-0002	41
32045.295	197	391-0243	106	432-0003	41
32046.265	197	391-0244	106	432-0004	41
32046.290	197	391-0245	106	432-0005	41
32046.298	197	391-0246	106	432-0024	40
320501.100	61	391-0421	105	432-0025	40
32095.264	196	391-0426	105	432-0058	39
32095.297	196	391-0865	104	432-0059	39
32096.267	196	391-0866	104	432-3110	39
32096.291	196	391-0868	104	432-3116	41
32097.261	197	391-0875	104	432-3117	40
32199.296	218	391-0878	104	432-3119	40
32304.291	218	391-0880	104	432-3121	40
330884Y	218	391-0891	104	432-3123	40
331-0032	4	391-0892	104	432-3124	40
331-0033	4	391-0893	104	432-3125	40
331-0034	4	391-0894	104	432-3126	40
331-0035	4	391-0895	104	432-3130	39
331-2170	4	391-1165	106	432-3131	40
331-2172	4	391-1254	149	432-3150	41
331-2173	4	391-1255	149	432-3152	41
34560.265	218	391-1256	149	432-3153	41
3470.0025	218	391-1257	149	432-3155	39
351430XF	118	391-1258	149	432-3156	40
351430ZF	118	391-1275	149	437123Y	155
35300.606	191	391-1281	150	438792U	155
35301.600	191	391-1294	149	438794L	155
35302.603	191	391-1295	149	438795A	155
35307.600	191	391-1296	149	441-0036	72
361430XF	118	391-1500	104	441-0038	34
390-0006	65	391-1501	104	441-0285	34
390-0007	65	391-1502	104	441-0286	34
390-0008	65	391-1503	104	441-0294	34
390-0009	65	391-1504	104, 106	441-0295	34
390-0010	65	391-1514	104	441-0297	34
390-0233	68	391-1517	104	441-0298	34
390-0234	68	391-1518	104	441-2127	33
390-0235	68	391-1519	104	441-2129	34
390-0238	67	391-1520	104	441-2999	34
390-0269	64	391-1521	104	441-9213	34
390-0270	67	391-1522	104	442-0185	35
390-0271	67	391-1546	104	442-0186	35
390-0272	67	391-2011	106	442-0212	35
				442-0516	37

Order Number	Page	Order Number	Page	Order Number	Page
442-0518	37	451-1424	42	461-0720	51
442-0550	34-35	451-1425	42	461-0721	50
442-0551	34-35	451-1426	42	461-0722	50
442-0552	34-35	451-2200	42	461-0723	50
442-0556	35	451-2201	42	461-0724	51
442-0557	35	451-4330	43	461-0725	50
442-0558	35	453-0050	44	461-0726	51
442-0562	35	453-0051	44	461-0727	51
442-0563	35	453-0052	44	461-0728	51
442-0564	35	453-0053	44	461-0729	51
442-0573	44	453-0054	44	461-0730	51
442-0598	37	453-0055	44	461-0731	50
442-0599	37	453-0056	44	461-0732	50
442-0600	37	453-0057	44	461-0733	51
442-0661	36	453-0058	44	461-0734	51
442-0662	36	455-0159	174	461-0741	44
442-0663	36	455-0161	174	461-3104	52
442-0664	36	455-0165	174	461-3108	54
442-0665	36	455-0198	174	461-3124	48
442-0666	36	461-0012	52	461-3125	48
442-0667	36	461-0013	52	461-3540	52
442-0668	36	461-0016	52	461-3541	52
442-0669	36	461-0017	52	461-3542	52
442-0695	36	461-0049	52	461-3901	52
442-2041	35, 44	461-0052	47	461-3904	52
442-2043	35, 44	461-0053	47	461-3912	52
443666A	155	461-0054	47	461-3920	52
444-0007	72	461-0170	48	461-3921	52
444-0093	72	461-0177	52	461-3923	52
444-0094	72	461-0178	52	462-0083	54
444-0485	73	461-0180	52	462-0092	44
444-0486	73	461-0223	51	462-0155	53
444-0487	73	461-0384	48	462-0156	53
444-0724	73	461-0413	48	462-0157	53
444-2321	33	461-0414	52	462-0158	53
444-2322	33	461-0418	48	462-0205	47
444-2323	33	461-0419	48	462-0206	49
444-2324	33	461-0426	52	462-0207	49
444-2531	33	461-0427	52	462-0208	49
444-2532	33	461-0428	52	462-0211	49
444-2533	33	461-0429	52	462-0212	49
444-2534	33	461-0430	52	462-0213	49
444-2535	33	461-0431	52	462-0215	46
444-2772	33	461-0432	52	462-0216	46
444-2773	33	461-0433	52	462-0217	46
444-2775	33	461-0434	52	462-0218	46
444-2776	33	461-0435	52	462-0219	46
444-2777	33	461-0472	48	462-0220	46
444-2915	30	461-0481	52	462-0221	46
444-2916	30	461-0482	52	462-0222	46
444-2917	30	461-0483	52	462-0240	45
444-2932	31	461-0484	52	462-0241	45
444-2934	31	461-0485	52	462-0242	45
444-2937	31	461-0486	52	462-0243	45
444-2939	32	461-0630	51	462-0244	45
444-2940	32	461-0631	51	462-0245	45
444-2943	32	461-0632	48	462-0246	45
444-2954	32	461-0677	51	462-0247	45
444-2965	31	461-0678	51	462-0248	45
444-2967	31	461-0679	51	462-0249	45
444-5900	73	461-0680	51	462-0250	45
444-5902	73	461-0687	50	462-0251	45
444-5903	73	461-0688	50	462-0252	45
444-9173	73	461-0689	50	462-0253	45
444-9174	73	461-0690	50	462-0254	45
444-9182	73	461-0691	50	462-0255	45
444-9183	73	461-0696	50	462-0256	45
444-9184	73	461-0697	50	462-0257	45
444152G	155	461-0698	51	462-0258	45
444153H	155	461-0699	51	462-0259	45
451-0014	42	461-0700	50	462-0260	45
451-0015	42	461-0706	51	462-0261	45
451-0081	42	461-0707	51	462-0262	45
451-0082	42	461-0708	51	462-0272	46
451-0135	42	461-0709	51	462-0336	50
451-0153	42	461-0710	51	462-0337	50
451-0155	42	461-0716	51	462-0338	50
451-1320	43	461-0717	51	462-0339	51
451-1330	43	461-0718	51	462-0340	51
451-1365	43	461-0719	51	462-0341	51

Order Code Index

Order Number	Page	Order Number	Page	Order Number	Page
462-4102	53		5	548-0081	167
462-4104	53	511-0076	185	548-0083	166
462-4110	52	512-0586	20, 184	548-0085	167
462-4111	54	512-0587	20, 184	548-0086	167
462-4112	54	512-0588	20, 184	548-0088	167
462-7000	54	512-3331	123	548-0092	167
466-3510	174	512-3336	123	548-0106	166
466-3522	174	512-3558	22	548-0310	167-168
466-3523	174	515-0051	21	548-0318	166
466-5056	66-67	515-0052	21	548-0408	168
466-5057	66-67	515-0055	21	548-0411	168
466-5058	66-67	515-0156	21	548-0419	166
466-5060	64	515-0157	21	548-0420	166
466-5061	64	515-0172	21	548-0422	168
466-5062	64	516-0079	21	548-0424	167
466-5209	66-67	516-6940	21	548-0425	167
466-5210	66-67	516-6941	21	548-0428	167
471-0127	69	516-7024	22	548-0429	167-168
471-0172	70	516-7025	22	548-0447	167
471-0325	69	516-7026	22	548-0448	166
471-0356	69	516-7027	22	548-0780	166
471-0409	70	516-7028	22	548-0782	166
471-0415	69	516-7030	22	548-0784	167
471-0469	70	516-7031	22	548-0790	168
471-0470	70	516-7032	22	548-0791	167
471-0476	69	516-7706	21	548-0792	167-168
471-0500	69	516-8964	21	548-3205	168
471-0692	69	516-9094	21	548-3206	168
471-0865	70	516-9095	21	548-3300	167
472-0086	69	516-9096	21	548-3307	167
472-0097	70	516-9097	21	548-3308	167
472-2017	69	516-9337	21	548-3331	168
472-2326	70	516-9890	21	548-3333	168
472-2376	69	516-9891	21	549-0197	165
472-2382	70	525-0144	97	549-0198	165
473-4100	51	527-1202	213	549-0199	165
473-4101	51	527-1221	213	549-0522	165
481-0397	58	527-1222	213	549-0523	165
481-0398	58	527-1302	213	549-0524	165
481-0399	58	527-1306	213	549-0534	165
481-0400	58	527-1990	213	549-0535	165
481-0401	59	527-1991	213	549-0536	166
481-0402	59	535092Q	124	549-0537	166
481-0403	59	535114F	124	549-0538	166
481-0405	59	535144L	124	549-0539	166
481-0407	59	535154N	124	549-0559	166
481-0408	59	535164P	124	551114ZA	120
481-0409	59	535182R	124	552-0011	170
481-0410	59	535184T	124	552-0012	170
481-0411	59	535302D	124	552-0024	170
481-0412	59	535303D	124	552-0027	170
481-0413	59	535308D	124	552-0029	170
481-0414	59	535310D	124	552-0129	170
481-0416	59	535311D	124	554-0878	169
481-0417	59	535312D	124	554-0879	169
481-0418	59	535313D	124	554-0880	169
481-0419	59	535323D	124	554-2214	169
481-0420	59	535324D	124	554-2215	169
481-0421	59	535329D	124	554-2216	169
481-0422	59	548-0002	167-168	554-2217	169
481-0425	59	548-0003	167	554-2218	169
481-0426	59	548-0004	167	554-2219	169
481-0427	59	548-0005	167	554-2220	169
481-0428	59	548-0006	167-168	554-2221	168
481-0429	59	548-0007	168	554-2222	168
481-0430	59	548-0009	168	554-2223	169
481-0432	59	548-0011	168	554-2224	169
481-0434	59	548-0012	168	554-2225	169
481-0443	59	548-0014	168	554-2226	169
481-0630	60	548-0016	168	554-2227	169
481-0680	61	548-0017	168	554-2228	169
481-0684	61	548-0018	166	554-2229	168
489-0045	60	548-0020	166	554-2230	169
489-0046	60	548-0023	166	554-2231	169
489-0047	60	548-0024	166	554-2232	169
489-0100	60	548-0025	166	554-2233	169
489-1311	60	548-0026	166	554-2234	169
489-1312	60	548-0028	167	554-2235	169
489-1313	60	548-0029	167	554-2236	169
		548-0030	167	554-2237	169

Order Number	Page
554-2238	169
558-0331	170
561314ZA	120
563390ZF	120
568-0170	170
568-0174	170
5732.5000	218
5792.5000	218
590-1500	164
590-1501	164
590-1502	164
590-1503	164
590-1504	164
590-1505	164
590-1506	164
590-1507	164
590-1508	164
590-1509	165
590-1510	164
590-1511	165
590-1512	164
590-1513	164
590-1514	164
590-1515	164
590-1516	165
590-1517	165
590-1518	165
590-1519	164
6	
600113ZA	121
600304ZA	121
600343ZF	121
600531ZA	121
600834ZA	121
600954ZA	121
601030ZA	121
601121ZA	121
601314ZA	121
601320ZA	121
601370ZA	121
601410ZF	121
601580ZA	121
601770ZA	121
602730ZL	118
603552ZA	121
610173ZA	121
610360ZF	121
611-0093	76
611-0094	76
611-0095	76
611-0097	77
611-0604	200
611-0605	200
611-0732	123
611-0739	201
611-0741	201
611-1100	201
611-1195	74
611-1196	74
611-1197	74
611-1469	203
611-1475	203
611-1490	203
611-1609	201
611-1610	201
611-1613	203
611-1739	75
611-1750	75
611-1767	75
611-1790	75
611-1792	75
611-1793	75
611-1797	75
611-1801	75
611-1884	200
611-1932	204
611-1933	204
611-1937	74
611-1938	74
611-1939	74

Order Number	Page
611-1942	74
611-1943	204
611-1993	77
611-1994	77
611-1995	77
611-1996	77
611-2428	79
611-2429	79
611-2430	79
611-2431	79
611-2432	79
611-2433	79
611-2434	79
611-2435	79
611-2436	79
611-2437	79
611-2527	75
611-2536	79
611-3869	200
611-3870	200
611-3885	200
611-3892	76
611-3893	76
611-3894	76
611-3909	74
611-3918	74
611-3919	74
611-3969	204
611-3974	204
611-4192	203
611-4194	203
611-8231	77
611-8232	77
611-8233	77
611-8234	77
611-8235	77
611-8236	77
611-8237	77
611-8238	77
611-8239	77
611-8240	77
611-8241	77
611-8242	77
611-8243	77
611-8244	77
611-8245	77
611-8246	77
611-8247	77
611-8248	77
611-8249	77
611-8250	77
611-8461	78
611-8462	78
611-8463	78
611-8464	78
611-8465	78
611-8466	78
611-8467	78
611-9001	201
611-9004	201
611-9161	77
611-9162	77
611-9168	76
611-9169	76
611-9170	76
611-9175	76
611-9176	76
611-9177	76
611-9178	76
611-9179	76
611-9180	76
611-9181	76
611-9182	76
611-9183	76
611-9184	77
611-9185	77
611-9186	77
611-9187	77
611-9188	77
611-9189	77

Order Number	Page
611-9190	77
611-9191	77
611-9192	77
612-0776	42
612-1067	88
612-1068	88
612-1070	88
612-1075	88
612-1096	88
612-1097	88
612-1098	88
612-1101	88
612-1106	88
612-1110	88
612-1112	88
612-1113	88
612-1114	88
612-1115	88
612-1117	88
612-1201	210
612-1202	210
612-1203	210
612-1207	210
612-1212	210
612-1214	210
612-1215	210
612-1218	210
612-1219	210
612-1310	210
612-1311	210
612-1314	210
612-1315	210
612-1317	210
612-1318	210
612-1320	210
612-1384	210
612-1517	207
612-1519	207
612-1520	207
612-1521	207
612-1522	207
612-1523	207
612-1525	208
612-1527	208
612-1528	208
612-1556	209
612-1560	107
612-1561	107
612-1563	209
612-1565	209
612-1567	209
612-1569	209
612-1570	209
612-1675	38, 91
612-1701	89
612-1702	89
612-1798	89
612-1812	89
612-1931	86
612-2005	86
612-2588	89
612-2591	89
612-2592	89
612-2625	87
612-2626	87
612-2627	87
612-2628	87
612-2651	107
612-2652	107
612-2653	107
612-2654	107
612-2655	107
612-2678	16
612-2679	16
612-2680	16
612-2687	107
612-2688	107
612-2689	107
612-2690	107
612-2691	89

Order Code Index

Order Number	Page	Order Number	Page	Order Number	Page
612-2693	89	612-5015	207	613-0263	99
612-2803	188	612-5017	207	613-0264	99
612-2881	87	612-5018	207	613-0265	97
612-2882	87	612-5019	207	613-0266	98
612-2883	87	612-5020	207	613-0267	98
612-2884	87	612-5021	207	613-0271	99
612-3341	209	612-5023	208	613-0272	97
612-3342	209	612-5025	208	613-0273	98
612-3343	209	612-5026	208	613-0274	98
612-3344	209	612-5073	209	613-0276	97
612-3345	209	612-5076	209	613-0277	97
612-3346	209	612-5077	209	613-0278	98
612-3347	209	612-5079	209	613-0279	98
612-3401	88	612-5080	209	613-0284	99
612-3609	90	612-7310	94	613-0285	98
612-3610	90	612-7321	94	613-0286	98
612-3627	90	612-7331	94	613-0287	97
612-3671	189	612-7332	94	613-0288	98
612-3672	189	612-7333	94	613-0289	99
612-3695	87	612-9351	106	613-0290	99
612-3696	87	612-9352	106	613-0291	99
612-3697	87	612-9353	106	613-0292	99
612-3698	87	612-9354	106	613-0293	99
612-3699	87	612-9355	106	613-0294	99
612-3700	87	612-9356	106	613-0295	99
612-3701	87	612-9357	106	613-0296	98
612-3702	87	612-9358	106	613-0297	98
612-3703	87	612-9920	189	613-0298	97
612-3704	87	612-9921	189	613-0299	98
612-3705	87	612-9922	189	613-0300	98
612-3707	87	612-9936	188	613-0301	99
612-3738	208	612-9937	188	613-0302	99
612-3743	208	612-9938	188	613-0304	98
612-3744	208	612-9939	188	613-0306	100
612-3745	208	613-0085	94-95	613-0307	100
612-3746	208	613-0086	94-95	613-0320	99
612-3832	207	613-0090	94-95	613-0331	97
612-3834	207	613-0166	94	613-0332	98
612-3835	207	613-0167	94	613-0333	98
612-3836	207	613-0168	94	613-0334	98
612-3837	207	613-0169	94	613-0335	98
612-3838	207	613-0170	94	613-0336	98
612-3861	89	613-0171	94	613-0337	98
612-4472	90	613-0172	94	613-0338	97
612-4473	90	613-0173	94	613-0339	97
612-4479	90	613-0174	94	613-0340	97
612-4481	90	613-0175	94	613-0341	98
612-4491	90	613-0229	99	613-0342	98
612-4494	90	613-0230	99	613-0343	97
612-4497	90	613-0231	99	613-0344	98
612-4499	90	613-0232	99	613-0345	98
612-4500	90	613-0233	99	613-0350	99
612-4502	90	613-0234	99	613-0352	98
612-4508	90	613-0235	99	613-0353	98
612-4509	90	613-0236	99	613-0354	99
612-4511	90	613-0237	98	613-0355	99
612-4514	90	613-0238	98	613-0356	99
612-4515	90	613-0239	97	613-0357	98
612-4523	90	613-0240	97	613-0358	98
612-4526	90	613-0241	98	613-0359	99
612-4527	90	613-0242	98	613-0360	98
612-4533	90	613-0243	99	613-0361	99
612-4536	90	613-0244	99	613-0362	98
612-4538	90	613-0245	99	613-0363	99
612-4542	90	613-0246	97	613-0364	97
612-4543	90	613-0247	98	613-0366	98
612-4545	90	613-0248	98	613-0367	99
612-4546	86	613-0249	99	613-0368	99
612-4548	86	613-0250	99	613-0369	98
612-4552	87	613-0251	98	613-0370	97
612-4553	87	613-0252	97	613-0371	98
612-4722	80	613-0253	98	613-0372	98
612-4724	80	613-0254	97	613-0373	97
612-4726	80	613-0255	98	613-0374	98
612-4728	80	613-0256	98	613-0375	98
612-4730	80	613-0258	99	613-0376	99
612-4732	80	613-0259	97	613-0377	97
612-4734	80	613-0260	98	613-0378	98
612-4736	80	613-0261	98	613-0379	98
612-4750	189	613-0262	99	613-0380	97

Order Number	Page	Order Number	Page	Order Number	Page
613-0381	98	613-1032	93	614-0092	177
613-0382	98	613-1033	93	614-0093	177
613-0383	100	613-1034	93	614-0094	177
613-0576	98	613-1262	92	614-0095	177
613-0577	98	613-1592	100	614-0096	177
613-0578	97	613-1644	100	614-0097	178
613-0579	98	613-1645	100	614-0098	178
613-0580	98	613-1646	100	614-0099	178
613-0581	97	613-1647	100	614-0100	177
613-0582	98	613-1685	96	614-0101	177
613-0583	98	613-3302	189	614-0102	177
613-0584	97	613-3303	190	614-0103	177
613-0631	99	613-3304	189	614-0104	177
613-0632	99	613-3305	190	614-0105	175
613-0633	99	613-3306	189	614-0106	175
613-0634	99	613-3307	190	614-0107	175
613-0635	99	613-3308	189	614-0108	175
613-0636	97	613-3309	190	614-0117	175
613-0637	98	613-3310	189	614-0118	175
613-0638	98	613-3311	190	614-0119	176
613-0693	97	613-3312	189	614-0120	176
613-0721	100	613-3313	190	614-0127	176
613-0722	100	613-3314	190	614-0128	176
613-0723	100	613-3316	189	614-0129	176
613-0724	100	613-3323	189	614-0130	176
613-0725	100	613-3456	96	614-0131	176
613-0726	100	613-3457	96	614-0132	175
613-0727	100	613-3458	96	614-0133	175
613-0728	100	613-3459	96	614-0134	176
613-0729	100	613-3460	96	614-0135	176
613-0730	100	613-3461	96	614-0136	176
613-0731	100	613-3462	96	614-0137	210
613-0732	100	613-3463	96	614-0138	210
613-0733	100	613-3464	96	614-0139	210
613-0734	100	613-3465	96	614-0140	177
613-0735	100	613-3466	96	614-0141	175
613-0736	100	613-3467	96	614-0142	188
613-0737	100	613-3468	96	614-0143	188
613-0738	100	613-3469	96	614-0144	188
613-0739	100	613-3470	96	614-0145	188
613-0740	100	613-3471	96	614-0146	188
613-0741	100	613-3472	96	614-0147	188
613-0742	100	613-3473	96	614-0148	188
613-0743	100	613-3474	96	614-0149	211
613-0744	100	613-3475	96	614-0150	211
613-0745	100	613-3476	96	614-0151	211
613-0746	100	613-3478	96	614-0152	211
613-0747	100	613-4069	97	614-0153	211
613-0748	99	613-4070	97	614-0154	211
613-0749	97	613-4074	97	614-0155	211
613-0750	98	613-4096	97	614-0156	211
613-0751	98	613-4105	97	614-0157	211
613-0830	97	613-5258	95	614-0158	211
613-0831	97	613-5259	95	614-0159	211
613-0892	97	613-5260	95	614-0160	211
613-0964	92	613-5261	95	614-0161	211
613-1000	93	613-5262	95	614-0162	211
613-1004	93	613-5263	95	614-0163	179
613-1006	93	613-5264	95	614-0164	27
613-1007	93	613-5265	95	614-0165	27
613-1011	93	613-5266	95	614-0166	27
613-1013	93	613-5267	95	614-0167	27
613-1014	93	613-5268	95	614-0168	27
613-1015	93	613-5269	95	614-0169	27
613-1016	93	613-5270	95	614-0170	185
613-1017	93	613-5271	95	614-0171	185
613-1018	93	613-5272	95	614-0172	27
613-1019	93	613-5273	95	614-0173	27
613-1020	93	613-5274	95	614-0174	27
613-1021	93	613-5275	95	614-0175	27
613-1022	93	613-5276	95	614-0176	27
613-1023	93	613-5277	95	614-0177	27
613-1024	93	613-5278	95	614-0178	27
613-1025	93	613-5279	95	614-0179	182
613-1026	93	613-5280	95	614-0180	182
613-1027	93	613120ZA	121	614-0181	182
613-1028	93	614-0088	177	614-0182	182
613-1029	93	614-0089	177	614-0183	181
613-1030	93	614-0090	177	614-0184	181
613-1031	93	614-0091	177	614-0185	181

Order Code Index

Order Number	Page	Order Number	Page	Order Number	Page
614-0186	181	620-2005	82	661-0123	190
614-0187	181	620-2006	82	661-5665	190
614-0188	181	620-2012	82	662-0121	191
614-0189	181	620-8104	44	662-0122	191
614-0190	184	620-9102	81	662-0123	191
614-0194	184	620-9103	81	662-0124	191
614-0195	184	620-9104	81	662-0126	191
614-0196	185	620-9105	81	662-0127	191
614-0197	55	620-9106	81	662-0330	193
614-0198	55	630-0460	111	662-1117	191
614-0199	55	630-0461	111	662-1119	192
614-0200	182	630-0462	111	662-1213	196
614-0201	182	630-0463	111	662-1223	192
614-0202	182	630-0708	131	662-1243	193
614-0203	182	630-1050	111	662-1301	196
614-0217	182	630-1051	111	662-1302	196
614-0218	182	630-1052	111	662-1303	196
614-0219	182	630-1053	111	662-1304	196
614-0220	182	630-1054	111	662-1305	194
614-0229	183	630-1055	111	662-1315	194
614-0230	183	630-1070	111	662-1319	196
614-0231	180	630-1071	111	662-1349	194
614-0232	180	630-1075	111	662-1357	194
614-0233	185	630-1141	112	662-1400	196
614-2022	178	630-1142	112	662-2151	196
614-2023	178	630-1143	112	662-2737	190
614-2024	178	630-1144	113	662-2777	192, 195
614-2025	178	630-1145	113	662-2778	192
614-2026	178	630-1146	113	662-2781	195
614-2027	178	630-1256	114	662-2782	195
614-2028	175-178	630-1257	114	662-2788	195
614-2029	175-178, 210	630-1258	114	662-2789	195
614-2030	175-177	630-1259	114	662-2894	195
614-2031	177	630-1260	114	662-2898	192, 195
614-2032	175-177	630-1261	114	662-6071	196
614-2033	175-176	630-1262	114	662-6090	196
614-2034	175-177	630-1282	111	662-6144	196
614-2035	175	630-1283	111	662-6165	196
614-2038	178	630-1513	113	662-7060	194
614-2052	179-180	630-1515	113	690042ZA	121
614-2053	179-180, 183	630-1517	113	690144ZA	121
614-2054	180, 183	630-1518	113	690440ZA	121
614-2060	183	630-1519	113	690450ZA	121
614-2061	27	630-1520	113	690592ZA	121
614-2062	182	630-1546	114	690674ZA	121
614-2064	182	630-1547	114		
614-2065	182	630-1548	114		
614-2066	182	630-3044	112	700-0015	152
616-0083	202	630-3045	112	700-0034	152
616-0084	202	630-3046	113	700-0056	153
616-0085	202	630-3047	113	700-0082	153
616-0100	202	631-0346	115	700-0112	151
620-0837	82	631-0347	115	700-0113	151
620-0838	82	631-0348	115	700-0114	151
620-0839	82	631-0726	212	700-0115	151
620-0840	82	631-0864	115	700-0116	151
620-0841	82	631-0920	115	700-0117	151
620-0910	81	631-0921	115	700-0136	153
620-0914	81	631-0922	115	700-0154	154
620-1259	83	631-1550	114	700-0250	154
620-1356	84	631-1551	114	700-0253	154
620-1556	84	631-1552	114	700-0255	154
620-1584	81	631-1553	114	70035.607	191
620-1638	83	631-1566	115	70036.601	191
620-1639	83	631-1567	115	705-0335	198
620-1640	83	631-1569	115	705-0341	198
620-1648	83	631-1570	115	705-0342	198
620-1649	83	631-9130	115	705-0343	198
620-1650	83	635-0153	199	705-0344	198
620-1651	83	635-0154	199	709-0107	28
620-1667	84	635-0160	199	709-0108	178
620-1668	84	635-0164	199	709-0109	178
620-1806	83	635-0165	199	709-0110	178
620-1814	84	635-0167	199	709-0111	178
620-1815	84	635-0168	199	709-0112	178
620-1826	82	640971ZA	121	709-0113	183
620-1859	85	650440ZA	121	709-0114	183
620-1860	85	661-0118	190	709-0115	183
620-1861	85	661-0120	190	709-0116	183
620-1863	85	661-0122	190	710-0431	15
				710-0472	15

Order Number	Page	Order Number	Page	Order Number	Page
710-0473	15	710-3221	140	731203ZA	121
710-0474	15	710-3222	140	732-0380	136
710-0475	15	710-3223	140	732-0393	136
710-0476	15	710-3224	140	732-0499	98
710-0477	15	710-3225	140	732-0500	97
710-0478	15	710-3226	140	732-0501	98
710-0479	16	710-3227	140	732-0502	98
710-0596	102	710-3228	140	732-0503	99
710-0599	105	710-3229	140	732-0504	97
710-0600	105	710-3231	140	732-0505	98
710-0601	105	710-3232	140	732-0506	98
710-0602	105	710-3251	140	732-0545	150
710-0603	105	710-3254	140	732-0546	150
710-0605	125	710-3267	140	732-0547	150
710-0707	125	710-3268	140	732-0548	150
710-0710	102	710-3272	140	732-0552	150
710-0711	102	710-3296	140	732-0553	150
710-0712	102	710-3321	146	732-0554	150
710-0713	102	710-3322	146	732-0557	98
710-0716	102	710-3323	146	732-0618	136
710-0717	102	710-3324	146	732-0810	150
710-0718	102	710-3326	146	732-0840	136
710-0719	102	710-3327	146	732-0841	136
710-0720	102	710-3502	105	732-0844	136
710-0721	102	710-3503	105	732-0845	136
710-0722	102	710-3504	105	732-0846	136
710-0723	102	710-3505	105	732-0858	131
710-0724	102	710-3506	105	732-0859	131
710-0725	102	710-3507	105	732-0996	135-136
710-0850	102	710-3508	105	732-1271	133
710-0863	103	710-3509	105	732-1273	133
710-0864	103	710-3510	105	732-1274	133
710-0865	103	710-3511	105	732-1476	101
710-0868	17	710-3512	105	732-1477	101
710-0873	38	710-3513	105	732-1478	101
710-0875	17	710-3514	105	732-1479	101
710-0879	17	710-3515	105	732-1480	101
710-0882	17	710-3516	105	732-1481	101
710-0883	29	710-3517	105	732-1482	101
710-0885	103	710-3518	105	732-1483	101
710-0886	17	710-3519	105	732-1484	101
710-0889	17	710-3521	105	732-1485	101
710-0890	17	7101.00900	122	732-4820	136
710-0891	17	7201.04500	122	732-4860	136
710-0892	17	7201.06750	122	732-4866	136
710-0895	18	7201.09000	122	732-4890	136
710-0899	103	721115TA	121	733-0105	141
710-0904	18	730-1348	137	733-0106	144
710-0918	102	730-1379	139	733-0107	141
710-0919	17	730-1380	139	733-0113	144
710-1019	15	730-1381	138	733-0114	145
710-1020	15	730-1382	137	733-0116	145
710-1021	38, 91	730-1383	137	733-0117	143
710-2001	125	730-1384	137	733-0118	143
710-2004	125	730-2956	160	733-0119	143
710-2007	125	730-2957	160	733-0120	144
710-2010	125	730-2958	160	733-0121	144
710-2014	125	730-2959	160	733-0180	141
710-2016	125	730-2961	160	733-0991	141
710-2023	125	730-3002	137	733-0992	143
710-2024	125	7301.00900	122	733-1300	140
710-2025	125	7301.01125	122	733-1301	140
710-2026	125	7301.02250	122	733-1302	140
710-2029	125	730731ZA	121	733-1303	141
710-2032	125	730733IA	121	733-1304	141
710-2039	125	730774ZA	121	733-1305	141
710-2040	125	731-0180	132	733-1307	141
710-2042	125	731-0182	132	733-1311	141
710-2043	125	731-0201	136	733-1312	141
710-2044	125	731-0231	133	733-1313	141
710-3201	140	731-0232	133	733-1314	142
710-3202	140	731-0233	133	733-1315	142
710-3203	140	731-0234	133	733-1316	142
710-3204	140	731-0235	134	733-1317	142
710-3205	140	731-0236	134	733-1318	142
710-3207	140	731-0240	136	733-1319	142
710-3208	140	731-0251	136	733-1320	142
710-3218	140	731-0343	135	733-1321	142
710-3219	140	731-0344	135	733-1323	141
710-3220	140	731-0358	135	733-1324	143

Order Number	Page	Order Number	Page	Order Number	Page
733-1325	143	83639.290	219	E406-15ML	159
733-1326	143	83639.320	219	E406-5ML	159
733-1328	143	83640.290	219	E413-100G	157
733-1329	143	83640.320	219	E413-250G	157
733-1363	142	83645.290	219	E413-25G	157
733-1364	142	83645.320	219	E776-100G	156
733-1767	142	83650.320	219	E776-250G	156
733-1768	142	84509.290	218	E776-25G	156
733-1817	141	84509.360	218	E840-100UG	160
733-1819	140	84545.360	173	G	
733-1820	140	84546.360	173	GERB3517	180
733-1823	141	84547.360	173	GERB3518	180
733-1826	141	84549.360	173	GERB3519	180
733-1834	141	84550.360	173	GERB3521	180
733-1854	142	84551.360	173	GERB5460	220
733-1855	142	84552.360	173	GERB5461	220
733-2000	138-139	84553.360	173	GERB5462	220
733-2009	141	84554.360	173	GERB5463	220
733-2062	131	84555.360	173	GERB5464	220
733-2065	141	84556.360	173	GERB7165	183
733-2066	141	850179ZB	122	GERB7166	183
733-2067	141	850343VB	122	GERB7169	183
733-2090	146	853120ZB	122	GERB7186	183
733-2091	146	853604ZB	122	GERB7187	183
733-2092	146	870179ZB	122	GERB7188	183
733-2093	146	9		J	
733-2094	146	928010NL	118	J234-100G	157
733-2095	146	928020NL	118	J234-250G	157
733-2096	146	928030NL	118	J234-25G	157
733-2097	146	928040OL	118	J885-1L	157
733-2098	146	928070NL	118	J885-20L	157
733-2099	145	928090NL	118	J885-4L	157
733-2100	145	928150NL	118	J885-5L	157
733-2101	145	928160NL	118	K	
733-2102	145	928170OL	118	K180-250UL	158
733-2103	145	928190NL	118	K181-500UL	158
733-2104	145	928230NL	118	K857-1000TABS	156
733-2105	145	928250NL	118	K857-100TABS	156
733-2106	145	928300NL	118	K915-1.6L	157
733-2107	145	928310NL	118	K915-20L	157
733-2540	142	928320NL	118	K915-4L	157
733-2541	142	928330NL	118	K915-5L	157
733-2542	142	928340NL	118	K945-5ML	156
733-2543	142	928350NL	118	K946-1PK	157
733-2544	142	928360NL	118	L	
733-2545	142	928370NL	118	L14259.0B	218
733-2546	142	928390NL	118	M	
733-2547	142	93002.1016	127	M6223-01	161
736-0204	97	94006.1016	127	M6223-02	161
736-0205	98	98108.290	218	N	
736-0206	98	9913.5000	218	N313-KIT	159
7501.00225	122	A		N472-KIT	159
7503.00225	123	A5225.0050	54	N472-Q-0.5ML	159
7504.00225	123	AX011103	121	N550-300UL	158
761320WA	121	AX011158	121	N551-600UL	158
7701.05000	123	AX021146	120	N603-KIT	158
7701.10000	123	AX021182	120	N604-KIT	158
7701.15000	123	AX021189	120	N650-KIT	159
7701.20000	123	AX021263	120	N746-100RXN	159
7702.20000	123	AX021264	120	X	
7901.01125	123	AX022241	120	X174-100G	156
7901.01800	123	AX022245	120	X174-250G	156
8		AX029148	120	X174-25G	156
8000.05000	122	AX029167	120	X328-10ML	159
800179ZB	122	AX051132	119		
801121ZB	122	AX061101	124		
822070ZA	126	D			
822071ZA	126	D3396-01	161		
822072ZA	126	D3396-02	161		
822073ZA	126	E			
83601.260	196	E190-5ML	156		
83601.290	196	E257-10ML	158		
83610.600	197	E257-50ML	158		
83610.610	197	E268-1ML	156		
83627.290	219	E268-5ML	156		
83627.320	219	E269-1ML	156		
83629.290	219	E269-5ML	156		
83629.320	219	E274-1ML	156		
83638.290	219	E274-5ML	156		
83638.320	219				