FUNKE GERBER

Laboratory Equipment

for beer testing

Dear Sir or Madam,

Since the foundation of the company in the year 1904, our activities concentrated on the analysis of milk. Now, after 100-year abstinence, we are pleased to be able to do a contribution for the analytics of beer. Based on our experiences in milk testing, we developed a new device, “FermentoStar”. Furthermore our delivering range was enlarged for the beer testing and arranged in a special catalog for the breweries.

Our standing delivering range comprises the entire range of beer analytics. Please, if you have wishes that are not covered by our delivering program, do not hesitate to contact us. We will be pleased to send you a reasonable offer as soon as possible.

We are looking forward to a good business cooperation.

Dipl.-Ing. K. Schäfer, managing director

Contents

Funke-Dr. N. Gerber Labortechnik GmbH
Partner of Dairy Industry since 1904
Activities in Beer Testing since 2003

For 100 years Funke-Gerber has been an important partner both of German and foreigen diary industry. Laboratory equipment for the analysis of milk and foodstuff is one of our most important activities. In the year 2003 a new device for the analysis of beer was brougth to the market.
We are still mainly involved in manufacturing of centrifuges, butyrometers and other equipment for the determination of fat according to Dr. N. Gerber. In addition to this classical field, our company has been producing modern electronic equipment for milk analysis for 20 years.
These instruments are highly appreciated due to its precision reliability and especially due to its easy handling. In many laboratories have been using it for years.
The new device “FermentoStar”, that was developed to determine constituents of beer routinely has opened up a new era of routine beer testing.

Our present expert knowledge and a continuous research and development of our products confirms the excellent image if Funke-Gerber in the laboratories.
There is a trusting cooperation with many business partners. They are representing Funke-Gerber in almost al countries of the world and assure the global presence to supply our products.

Funke-Gerber has been standing for quality, reliability and continuity since 1904.

Products
The company develops, manufactures and sells the following equipment worldwide:
☐ Laboratorey instruments for beer and milk testing
☐ General laboratory equipment

Activities
Turnkey installation or design of complete laboratories in the special fields of:
☐ Milk processing industry
☐ Breweries

Address:
Funke-Dr. N. Gerber Labortechnik GmbH
Ringstraße 42 · 12105 Berlin

Telefon: (+49-30) 702 006-0
Fax: (+49-30) 702 006-66
E-Mail: kontakt@funke-gerber.de
Website: www.funke-gerber.de

Brewery-Saccharimeter

Reading from top, Reference temp. 20°C with thermometer Th.+5..25/0,2°C with correction. PTB I 3685 a-e/29

	Measuring range [%mas]	Graduation [%mas]	Length [mm]	official cal. possible
2500	0- 5	0.1	400	x
2501	5-10	0.1	400	x
2502	10-15	0.1	400	x
2503	15-20	0.1	400	x
2504	20-25	0.1	400	x

Standard-Saccharimeter

Reading from beneth. Reference. temp. 20°C mit Thermometer Th.+10..30/0,2°C with correction. PTB 1626/30

	Measuring range [%mas]	Graduation [%mas]	Length [mm]	official cal. possible
2510	0-10	0.1	370	x
2511	10-20	0.1	370	x
2512	20-30	0.1	370	x
2513	0-20	0.1	450	x
2514	0.9-14.5	0.1	380	
2515	9.9-25.4	0.1	380	
2516	0-12	0.1	420	

Standard-Saccharimeter

Reading from up. Referenz temp 20° with thermometer 0..30/0,5°C with correction.

	Measuring range [%mas]	Graduation [%mas]	Length [mm]	official cal. possible
2520	0- 3	0.05	400	
2521	3- 6	0.05	400	
2522	6- 9	0.05	400	
2523	9-12	0.05	400	
2524	12-15	0.05	400	
2525	15-18	0.05	400	
2526	18-21	0.05	400	
2527	21-24	0.05	400	

Pocket Saccharimeter

Ref. temp. 20 °C with thermometer, Th. 0..30/1.0 °C with corr.

	Measuring range [% mas]	Graduation [% mas]	Length [mm]	official cal. possible
2530	0- 7	0.1	275	x
2531	7-14	0.1	275	x
2532	14-21	0.1	275	x
2533	21-28	0.1	275	x

Vessel-Saccharimeter

Reading from up, reference temperature 6 °C

	Measuring range [% mas]	Graduation [% mas]	Length [mm]	official cal. possible
2540	0..10	0.1	650	
2541	0..20	0.2	650	

Fermentation-Saccharimeter

Reading from up, reference temperature 20 °C with thermometer Th. 10-30 °/0,5 °C with correction.

	Measuring range [% mas]	Graduation [% mas]	Length [mm]	official cal. possible
2550	-1..+2	0.05	255	
2551	0..3	0.05	255	
2552	2..5	0.05	255	

Saccharimeter Brix

(for lemonade and fruit juice), Reference temperature 20 °C, with thermometer. Th.0..40/1.0 °C with correction.

	Measuring range [% Brix]	Graduation [% Brix]	Length [mm]	official cal. possible
2560	0-50	0.5	380	
2561	30-80	0.5	380	
2562	53-75	0.1	450	
2563	0-15	0.1	380	
2564	30-45	0.1	380	
2565	45-60	0.1	380	
2566	30-50	0.1	400	
2567	50-70	0.1	400	

Alcoholmeter EG Class II

Reference temp. 20 °C with thermometer 5..25/0.2 °C

	Measuring range [% vol]	Graduation [% vol]	Length [mm]	official cal. possible
2570	0- 10	0.1	400	x
2571	10- 20	0.1	400	x
2572	20- 30	0.1	400	x
2573	30- 40	0.1	400	x
2574	40- 50	0.1	400	x
2575	50- 60	0.1	400	x
2576	60- 70	0.1	400	x
2577	70- 80	0.1	400	x
2578	80- 90	0.1	400	x
2579	90-100	0.1	400	x

Alcoholmeter EG Class III

acc. DIN 12803 Ref. temp. 20 °C with thermometer 5..25/0.2 °C

	Measuring range [% vol]	Graduation [% vol]	Length [mm]	official cal. possible
2580	0- 5	0.1	330	x
2581	5- 10	0.1	330	x
2582	10- 15	0.1	330	x
2583	15- 20	0.1	330	x
2584	20- 25	0.1	330	x
2585	25- 30	0.1	330	x
2586	30- 35	0.1	330	x
2587	35- 40	0.1	330	x
2588	40- 45	0.1	330	x
2589	45- 50	0.1	330	x
2590	55- 60	0.1	330	x
2591	60- 65	0.1	330	x
2592	65- 70	0.1	330	x
2593	70- 75	0.1	330	x
2594	75- 80	0.1	330	x
2595	80- 85	0.1	330	x
2596	85- 90	0.1	330	x

	Measuring range [% vol]	Graduation [% vol]	Length [mm]	official cal. possible
2597	90- 95	0.1	330	x
2598	95-100	0.1	330	x
2599	98-103	0.1	330	x

Alcoholmeter for 100 ml Destillates

Ref. temp. 20 °C, with thermometer, Th. 10..30/0.5 °C

	Measuring range [% vol]	Graduation [% vol]	Length [mm]	official cal. possible
2610	0- 10	0.2	250	x
2611	10- 20	0.2	250	x
2612	20- 30	0.2	250	x
2613	30- 40	0.2	250	x
2614	10- 67	0.5	450	x
2615	65-100	0.2	470	x
2616	0-100	1.0	470	x
2617	0-100	1.0	265	
6710	0-100	1.0	290	

Hydrometer for brine / Beaumé

0 – 30 Bé: T = 15 °C, approax. 240 x 17 mm

6680	without thermometer
6681	with thermometer, 0 – 40 °C

Hydrometer for boiler water

DIN 12791, M 100, 20 °C, without thermometer,
approx. 250 x 20 mm

6690	1,000 – 1,100 : 0,002 g/ml

Hydrometer for boiler feed water

acc. to Dr. Ammer

6700	300/22 mm, -1,2 – +2 : 1/10 °Bé

All saccharimeters and thermometers are available officially calibrated on demand.

Hydrometer

DIN 12791, for various liqids, M 50,
without thermometer, T = 20 °C, 270 x 24 mm

6740	1.000 – 1.050 : 0.001 g/ml
6741	1.050 – 1.100 : 0.001 g/ml
6742	1.100 – 1.150 : 0.001 g/ml
6743	1.150 – 1.200 : 0.001 g/ml

All saccharimeters and thermometers are available officially calibrated on demand.

Accerories for hydrometers

6809	**Stand-cylinder for hydrometers** with 80 mm foot, Interior diameter 35 mm and height 400 mm
6810	**Stand, with cardanic suspension, hanging cylinder,** 210/22 mm
6830	**Stand, with suspension, hanging cylinder with over-flow, suitable for all hydrometers,** incl. drip tray, tubes and pinchcock
6832	**Stand for hydrometers** for max.18 pieces, til 25 mm diameter (for long and short hydrometers)

Laboratory pH meter

Electrodes are not in scope of supply

4310	**Knick 766** comfortable measuring instrument for pH, mV und °C: adjustment and control of the electrode, self-diagnostic, automatic temperature compensa-tion, recorder connection, calibrated-data memory
4311	**Knick 765** plus Rs 232 interface for computer and printer

Battery/pocket pH meter

Electrodes are not in scope of supply

4315	**Knick 911** highly developed dust, water and impact protected measuring instrument for pH, mV and °C with mounting clip for tables: automatic calibration, identification of buffer solution and temperature compensation, self diagnostics.
4316	**Knick 912** plus measurement data storage
4317	**Knick 913** plus data memory and interface for computer and printer
4319	**Pt 1000-temperature sensor** for pH 911, 912 and 913

Laboratory pH meter

4320	**WTW Level 1** routine laboratory pH/mV meter with automatic temperature compensation, calibration system, battery and mains operated
4321	**WTW Level 2** precision pH/mV meter plus RS 232-interface for computer and printer

Taschen-pH-Meter

4330	**WTW 330** robust and water-proof pH/mVmeter with data memory, automatic calibration, automatic temperature compensation
4331	**WTW 330-SET** measuring instrument in professional suitcase with integrated measuring set, holding clip, buffer solution pH 4, pH 7, pH 10 and KCL solution, without electrode
4334	**WTW 340** measuring instrument with additional analogue and digital outlets RS 232
4335	**Pt 1000-temperature sensor** with clip for WTW 330 und 340

pH/Pt 1000 combined SE100

Lenght: 165 mm, Diaphragma: ceramik,
Electrolyt:

4336	3 mol/l Kcl, Temperatur masuring range: 0.80 °C

Buffer solution

250 ml in PE bottle

4390	pH 4.00
4391	pH 7.00
4392	pH 9.00

KCL-solution250 ml in PE bottle

250 ml in PE bottle

4400	3 mol/l+AGCl

Electrode stand

for two electrodes, plastic

4410	

Cleaner for combined electrodes

250 ml in PE bottles

4420	AG-Cl-diaphragma cleaner, Thiourea solution
4421	**Protein solvent**, pepsin-hydrochloric acid

Reactivation solution

250 ml in PE bottle, hydrofluoric acid

4422	

Laboratory blender

2 speeds and timer 1– 60 Sec.,
230 V/50 Hz

3135	with 1.2 l glass container
3136	mit 1 l stainless-steel container

FermentoStar

New Ways in the Analysis of Beer

The usual way of analysing alcoholic drinks has always been to use two devices with different measurement principles, such as a density measure that uses a mechanical oscillator and a refractometer.

Principle:
The newly developed device FermentoStar is based on thermo-analytical measurement methods combined with mathematical algorithms. The beer sample should be degassed before by using a simple paper filter. The device sucks in the defined sample volume (18 ml) and starts the analysis by warming up the sample. During this warming up procedure the results at different measuring temperatures are assigned according the different chemical constituents. The results (alcoholic content, real extract and original wort) are displayed and printed on a protocol printer in approxemately 2 minutes. The resolution is 0.01% for any constituent.

Handling / Calibration:
The device has only three buttons and the operation is carried out on a menu.
The device is calibrated with help of a reference beer. Twenty different calibrating profiles (for example Pils, lager, or malt beer) can be stored. All measuring parameters (alcohol, original wort and extract) are calibrated automatically in one step. Only the reference values of the reference beer must be entered.

Interfaces / Accessories:
The Instrument is equiped with a serial interface for the connection to a personal computer (software is included) as well as a parallel interface for a protocol printer (thermo printer is included).

The development of this new device simplifies the analysis of beer.

FermentoStar

the device for the automatic analysis of beer
alcoholic percentage, original wort, extract, apparent extract

3570	complete, incl. printer
3563	**cleaning solution**, 500 ml

Thermal printer

recording printer (6V DC) for direct connection to
FermentoStar, matching rolls of thermopaper see 7157

7151	
	Roll of thermopaper
7157	for thermal printer 7151

WB 436-D Universal water bath (digital)

Digital temperatur display (actual value), digital nominal
temperatur control, PT 100 sensor (platinum sensors),
Stop watch (1 to 99 min. with acoustic signal)

3707

WB 436-A Universal water bath (analogue)

See 3707, but with analogue temperature adjustment
(turning knob), temperature display with thermometer
(included in scope of supply), thermostatic heat controller.

3708

Pocket refractometer

The internationally valid Brix scale allows a direct determination of percentage of dry matter in weight.

5610	0 – 32 % Brix: 0.2 % for fruit juice and soft drinks without thermometer
5612	28 – 62 % Brix: 0.2 %, for juice concentrate, without thermometer
5615	0 – 32 % Brix: Brix: 0.2 %, with thermometer
5615-1	0 – 32 % Brix:0.2 % with temperatur compensation
5616	28 – 62 % Brix 0.2 % with thermometer
5616-1	28 – 62 % Brix 0.2 % with temperatur compensation
5617	0 – 18 % Brix 0.1 % with thermometer
5618	58 – 92 % Brix 0.5 % with thermometer

Digital hand refractometer

0 – 45 % : 0.1 % Brix
1.3300 – 1.4100 nD : 0.0001 nD
0 – 60 °C : 0.1 °C
temperature compensation automatically 0 – 40 °C
(0.3 kg – 180 x 80 x 34 mm)

5614

Digital-Abbe-Refraktometer

1,3000 – 1,7200 nD : 0,0001 nD
0 – 95 % : 0,1 % Brix
0 – 99 °C : 0,1 °C
LED display 590 nm, serial interface RS-232 and RS 422,
115/230 V, 50/60 Hz (5 kg – 140 x 275 x 300 mm)

5620

Bath/circulation thermostat E-5 JULABO

for internal and external tempering temperature range: 20 °C to 100 °C (depending on ambient temperature), dip opening 150 x 150/150 mm, (6 kg 170 x 330 x 350 mm)

5630

Fermentation tubes acc. to Lietz

for the determination of the fermentation grade

5635	750 ml, 695 mm long
5636	250 ml, 450 mm long
5637	Stand for fermentation tubes acc. to Lietz

Moisture tester

for whole grains
transportable, for vatious grains

5640

HE 50: Determination of moisture

appreciated by DLG
simple handling, measuring range up
to 30 % moisture content

5641

Apparatus for the determination of Diacetyl

acc. Parnas, Wagner

5650

Nitrogen determination appatus acc. Dumas

5660

Moisture tester MLB 50

Fully automatic determination of moisture or dry matter

5670

Sample plate, aluminium

Accessory for 5670, 92 mm diameter, pack with 80 pieces

5671

Filter

Accessory for 5670. For splashing and encrusting samples.
Pack with 100 pieces

5672

Printer

Accessory for 5670

5673

Foil press

5711

5712 Aluminium round foil, 130 x 0,03 mm, 1000 pieces

Comparator

for determining the beers colour according EBC(2-27)

5714

5715 Colour plate, chlorine

5716 Colour plate, alpha amylase

5717 Colour plate, ferrum

5718 Colour plate, nitrite

5719 Colour plate, phenole red

5720 Colour plate, methyl red

Lamp of nature light

5721	

Rotary evaporator with waterbath

5740	

Analytical balance

GLP/ISO protocol option, piece counting, formulation memory, percentage determination, RS 232 C interface, underfloor weighing, dust and splash-proof, including calibration weight.

5810	120 g : 0.1 mg
5811	220 g : 0.1 mg

Precision balance

piece counting, formulation memory, percentage determination, RS 232 C interface, plash-proof, including calibration weight.

5820	810 g : 0.01 g
5821	650 g : 0.01 g
5830	410 g : 0.001 g

Automatic water distillation apparatus

for generation of distilled water with conductivity of under 2.3 µS/cm at +20 °C. Efficient energy consumption by using the cooling water heated up to 80 °C.
The apparatus is completely manufactured from stainless steel 1.4301. It is delivered including wall mount fixture and water supply and discharge hoses.

8771	Distillation volume: 4 l / h, Storage container: 4 l Cooling-water: 50 l / h, 220 V / 50 Hz; 3.2 kW Dimensions/Weight: 510 x 460 x 230 mm, 13 kg netto
8772	Distillation volume: 7 l / h, Storage container: 7 l Cooling-water.: 70 l / h, 220 V / 380 V / 50 Hz; 4.8 kW Dimensions/Weight: 670 x 500 x 340 mm, 19 kg netto

Water distillation apparatus

Mono, glass type

	Distillation volume: 3.5 l / h Cooling-water consumption: 45 l/h Conductance: 0.85 µs
8775	ca. 600 x 200 x 180 mm, 4 kg

Chemical thermometers

(mercury filling) completely dipping

	Measuring range [°C]	Graduation [°C]	Length [mm]
7042	-10..+ 50	1.0	200
7043	-10..+150	1.0	260
7045	-10..+100	1.0	

Normal thermometers

(mercury filling) completely dipping, *acc. DIN 12775

	Measuring range [°C]	Graduation [°C]	Length [mm]	officially calibrated	officially cal. with certificate	offic. cal. possible
7052	0..50 :	0,1	420	x	x	x
7053	48-102	0,1	450	x	x	x
7054	* 0..100	0,2	420	x	x	x
7055	* 0..100	0,5	270	x	x	x

Refrigerator thermometer

−50 to +50 °C: 1.0, spirit filling, blue, in plastic case, with loop and hook

7060	

Control thermometer

0 to +100 °C: 1.0, mercury filling, blue, 305 x 9 mm

7070	officially calibrated with certificate
7071	uncalibrated

Low-temperature laboratory thermometer

−38 to +50 °C: 1.0, mercury filling, 280 x 8 x 9 mm

7081	

Maximum-minimum rod thermometer

mercury filling, blue, 220 mm long

7095	-35 bis ..50 °C: 1.0
7096	-10 bis ..100 °C: 1.0

Special thermometer

as replacement for no. 7100

7101	

Polymeter

(hair hygrometer) for measuring RH and temperature, measuring range 0 – 100 % RH, 0 – 30 °C, with scale for saturation vapor

7110	

Digital thermometer 926 (Fig. with-stick/dipping sensor 7122)

for daily measurements of temperature in food industry, measuring range –50 to + 350 °C: 0.1 °C (1 °C from 200 °C), high precision, ISO-calibration certificate against extra charge

7120	

Stick-in/dipping sensors

7122	robust precision sensor, dia. 4 mm x 110 mm
7123	Stainless steel sensor for food, dia. 4 mm x 125 mm

TopSafe

protective cover against pollution, water, impact

7127	

Pipetting syringes

for determinig nutrient and dye solutions, self-priming, can be sterilized

5110	adjustable to 1 ml
5111	adjustable to 2 ml
5112	adjustable to 5 ml

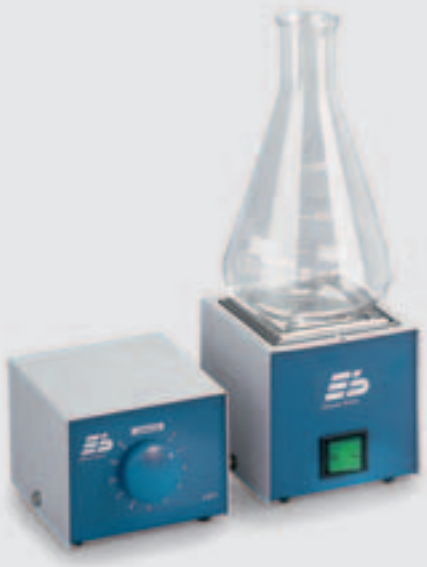
Bunsen burner

for propane (other types of gas on request)

5550	

Infrared burner, up to 750 °C

suitable for fast, contact-less heating



5571	(0.9 kg – 100 x 100 x 100 mm)
5572	**Power regulator**

Metering syringe

for nutrient solutions, sterilizable, see also 5110, 5111, 5112

8170	self suction, 10 ml

Sterilization box, stainless steel

for pipettes

8190	300 x 65 mm
8191	420 x 65 mm

Kapsenberg cap

various colors

8201	

Dilution flask

borosilicate glass 3.3, 250 ml,
with glass rod and silicon stopper, sterilizable

8290	
8291	Flask only

Dilution pipettes

acc. to Demeter

8300	1.1 : 0.1 ml, with 1 ring marks
8301	1.0 + 1.1 ml, with 2 ring marks
8302	1.0 + 2.0 + 2.1 + 2.2 ml, with 4 ring marks
8303	1.0 + 1.1 + 1.2 ml, with 3 ring marks

Petri dish

8310	glass, 100 x 20 mm

Petri dish

plastic (disposable), sterile packing

8312	Ø 60 x 15 mm, with vent cams
8313	Ø 94 x 16 mm
8314	Ø 94 x 16 mm, without vent cams
8315	Ø 145 x 20 mm, with vent cams

Sterilizing box

with insert, stainless steel, for glass Petri dishes

8320	

Wire cages
for sterilization

8330	100 x 100 x 100 mm
8331	140 x 140 x 140 mm
8332	200 x 200 x 200 mm

Smear needle
rectangular bend

8340	

Spatula, Drigalsky type

8350	glass

Inoculation wire

8370	stainless steel, 1 m

Burri loop
platinum, calibrated

8381	0,01 ml

Needle holder
for inoculation-wire loop

8382	

Slide
76 x 26 mm, half-white, cut edges 50 pieces

8400	

Cover glass
18 x 18 mm

8401	

Tweezers for slides

8410

Staining stand

acc. to Bongert

8420

Staining cuvette

rectangular

8430

Wire mesh

8440 with ceramic center

8441 without ceramic center

Tripod

for Bunsen burner

8450

Bacterial colony counter ColonyStar

easy to clean plastic casing, adjustable in height with directly or indirectly illuminated area of 145 mm Ø, glare-free, frosted glass and clear glass plate with cm^2- and 1/9-cm^2 graduation, electric counting and marking felt pen. Petri dishes up to 145 mm Ø can be used. Smaller Petri dishes can be used together with the supplied reducing insert. 220 V/50 Hz, 25 x 23 x 7.5 cm, 1.7 kg.

8500 **ColonyStar** inclusive all accessories (8501, 8502, 8503, 8504, 8505)

8501 Magnifying glass with base and flexible arm

8502 **ColonyStar** without accessories

8503 **Automatic counting pen**

8504 **Felt refill**, replacement part for 8503

8505 **Clear glass plate with dark field**

Air-microorganism-tester

for the control of unwanted microorganisms at the production and filling up areas

8506	

Bench autoclaves

with electromagnetic control

8510	1730 ML 170 x 300 mm, 7,5 l, 220–240 V, 1.3 KW
8512	2540 ML 250 x 420 mm, 23 l, 220–240 V, 2.2 KW
8513	3850 ML 380 x 510 mm, 62 l, 380–400 V, 4.8 KW
8514	3870 ML 380 x 690 mm, 85 l, 380–400 V, 4.8 KW
8515	5050 ML 500 x 500 mm, 110 l, 380–400 V, 4.8 KW
8516	5075 ML 500 x 750 mm, 160 l, 380–400 V, 7.2 KW

Bench autoclaves

with microprocessor control

8517	1730 EL 170 x 300 mm, 7,5 l, 220–240 V, 1.3 KW
8518	2540 EL 250 x 420 mm, 23 l, 220–240 V, 2.2 KW
8519	3850 EL 380 x 510 mm, 62 l, 380–400 V, 4.8 KW
8520	3870 EL 380 x 690 mm, 85 l, 380–400 V, 4.8 KW
8521	5050 EL 500 x 500 mm, 110 l, 380–400 V, 4.8 KW
8522	5075 EL 500 x 750 mm, 160 l, 380–400 V, 7.2 KW

Stand autoclaves

with electromagnetic control

8523	2540 MLV 250 x 400 mm, 23 l, 220–240 V, 2.2 KW
8524	3850 MLV 380 x 490 mm, 62 l, 380–400 V, 6.0 KW
8525	3870 MLV 380 x 690 mm, 85 l, 380–400 V, 6.0 KW
8526	5050 MLV 500 x 500 mm, 110 l, 380–400 V, 9.0 KW
8527	3875 MLV 500 x 750 mm, 160 l, 380–400 V, 9.0 KW

Stand autoclaves

with microprocessor control

8528	2540 MLV 250 x 400 mm, 23 l, 220–240 V, 2.2 KW
8529	3850 MLV 380 x 490 mm, 62 l, 380-400 V, 6.0 KW
8530	3870 MLV 380 x 690 mm, 85 l, 380-400 V, 6.0 KW
8531	5050 MLV 500 x 500 mm, 110 l, 380-400 V, 9.0 KW
8532	5075 MLV 500 x 750 mm, 160 l, 380-400 V, 9.0 KW

Portable bench autoclave

for rapid and efficient steam sterilization at 140 °C/2.7 bar or 125 °C/1.4 bar. Also suitable for autoclaving of small amounts of culture media. Special valves for 115 °C/0.7 bar and 121 °C/1.1 bar are available on request. 220 – 230 Volt, 50 – 60 Hz, 1.6 kW to 1.75 kW, Al silk gloss, polished, thermostatic temperature control, checked safety (GS)

	CV-EL 12 L
8541	volume 10 l, diameter 24 cm, internal height 22 cm, max. working space Ø 30 cm
	CV-EL 18 L
8542	volume 12 l, weight 6.1 kg, diameter 24 cm, internal height 24 cm, max. working space Ø 32 cm
8543	Sieve basket
8544	Instrument plate

Laboratory microscope Standard

binocular transmitted-light microscope transverse vision rotatable by 360 °, infinitely variable Halogen lamp (10 W), condenser N.A. 0.65 with iris diaphragm, quadruple revolving nosepiece, coaxial coarse and fine focusing control, specimen traverse, plug connection, protective cover.
Achromatic objectives: 4/0.10; 10/0.25; 40/0.65; 100/1.25 oil
Eyepieces WF 10x/18; 1x with pointer; 1x without pointer,

8760

Laboratory microscope Professional

higher operational convenience and better focusing control by stationary mechanical stage and condenser N.A. 1.2 with iris diaphragm

8761

Trinocular microscope

additionally to type Professional with trinocular sliding beak

8762

Counterunit of yeast cells acc. Thoma

officially calibrated

8763	
8764	**Coverglass for Counterunit A8763“**
8765	**Slide 76 x 26 mm**

Culture tubes

DURAN glass, straight rim, 16 x 160 mm, 100 pieces

9050	

Culture tubes

with ISO-thread, with screw caps, 16 x 100 mm, 100 pieces,
AR glass, sterilizable

9054	

Bottles for the durability test

without closure

9058	50 ml	9061	250 ml
9059	100 ml	9062	500 ml
9060	180 ml		

Bottles for the durability test

with closure made of galvanized wire and rubber plates

9063	50 ml	9066	250 ml
9064	100 ml	9067	500 ml
9065	180 ml		

Bottles for the durability test

with closure made of galvanized wire and silocon plates

9068	50 ml	9071	250 ml
9069	100 ml	9072	500 ml
9070	180 ml		

Pipette stand

PVC, for pipettes of various sizes

3460

Cleaning brush

for pipettes

3470

Laboratory goggles

3480

Tongs

5420

Glass stirrer

pestle-type, 140/6 mm

5430

Double-ended spatula

pure nickel, 150 mm

5440

Crystal quartz sand

washed and calcined, shipping costs on request

5460	1 kg	5461	3 kg

Aluminum foil

150 x 190 mm, 1000 pieces

5470	

Magnetic stirrer MONO

without heating, 1 – 3000 ml capacity (H20), 100 – 1000 rpm, dimensions 150 x 200 x 35 mm, 1.4 kg, plug connection for 115 or 230 V AC / 50 – 60 Hz included in scope of delivery

8690	

Magnetic stirrer MONOTHERM

with heating, 1 – 3000 ml capacity (H20), 100 – 1000 rpm, dimensions 160 x 295 x 60 mm, 2.5 kg, 230 V AC / 50 Hz, 115 V AC / 60 Hz by special order

8691	

Beaker

short, borosilicate glass, with markings and spout

8800	50 ml
8801	100 ml
8802	250 ml
8803	400 ml
8804	600 ml
8805	800 ml
8806	1000 ml

Beaker

tall, borosilicate glass, with markings and spout

8808	50 ml
8809	100 ml
8810	250 ml
8811	400 ml
8812	600 ml
8813	800 ml
8814	1000 ml
8815	2000 ml

Erlenmeyer flasks

narrow neck, borosilicate glass
with markings, DIN 12380

8817	50 ml
8818	100 ml
8819	200 ml
8820	250 ml
8821	300 ml
8822	500 ml
8823	1000 ml
8824	2000 ml

Erlenmeyer flasks

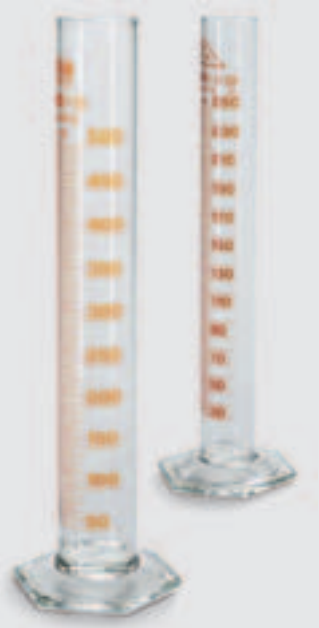
wide neck, borosilicate glass
with markings, DIN 12385

8826	50 ml
8827	100 ml
8828	200 ml
8829	250 ml
8830	300 ml
8831	500 ml
8832	1000 ml
8833	2000 ml

Measuring cylinder

tall, glass with spout

8850	50 ml : 1/2
8851	100 ml : 1/1
8852	250 ml : 2/1
8853	500 ml : 5/1
8854	1000 ml : 10/1



Measuring cylinder

tall, PP, blue gradation

8855	50 ml : 1/1
8856	100 ml : 1/1
8857	250 ml : 2/1
8858	500 ml : 5/1
8859	1000 ml : 10/1
8860	2000 ml : 20/1

Mixing cylinder

AR glass, round stem, with NS-PE stopper

8862	100 ml : 1/1
8863	250 ml : 2/1

Measuring flask

Borosilicate glass, with ring mark, DIN 12664, calibrated to Aln

8870	25 ml	8873	250 ml
8871	50 ml	8874	500 ml
8872	100 ml	8875	1000 ml

Glass funnel

AR-Glass, smooth, short stem with oblique end, DIN 12445

8876	55 mm Ø	8878	150 mm Ø
8877	100 mm Ø	8879	200 mm Ø

Measuring pipettes

Color-Code, AR-Glass

8882	1 ml : 1/100	8885	10 ml : 1/10
8883	2 ml : 1/50	8886	25 ml : 1/10
8884	5 ml : 1/10	8887	50 ml : 1/5

Volumetric pipettes

Color-Code, AR-Glass

8888	1 ml	8892	20 ml
8889	2 ml	8893	25 ml
8890	5 ml	8894	50 ml
8891	10 ml	8895	100 ml

Laboratory bottles

Borosilicate glass, with ISO-threads, graduation,
with PPN screw cap and PPN pouring ring (blue)

8970	100 ml	8973	1000 ml
8971	250 ml	8974	2000 ml
8972	500 ml		

Reagent bottles, wide neck

AR-Glass, white standard ground and joint stopper

8980	50 ml, NS 24/20
8981	100 ml, NS 29/22
8982	250 ml, NS 34/35
8983	500 ml, NS 45/40
8984	1000 ml, NS 60/46
8985	2000 ml, NS 60/46

Reagent bottles, narrow neck

AR-Glass,white standard ground and joint stopper

8990	50 ml, NS 14/15
8991	100 ml, NS 14/15
8992	250 ml, NS 19/26
8993	500 ml, NS 24/29
8994	1000 ml, NS 29/22
8995	2000 ml, NS 29/32

Test tubes

9080	DURAN-Glass, 16 x 160 mm, without rim, 100 pieces
9081	DURAN-Glass, 16 x 160 mm, with rim, 100 pieces

Test tube brush

with wool head

9090	

Weighing dishes

low shape, with knob lid

9120	35 x 30 mm
9121	50 x 30 mm

Digital burette µl 10

certificated conformity to 100 ml,
smallest adjustment 10 µl.

9190	

Desiccator

9201	glass, 250 mm
9211	**Desiccator plate**, porcelain

Wash bottles

Polyethylene

9230	100 ml	9232	500 ml
9231	250 ml	9233	1000 ml

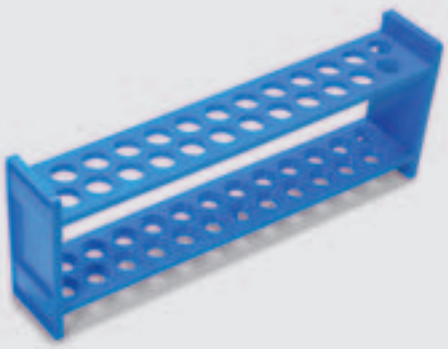
Funnels

Polyethylene

9235	50 mm Ø	9238	120 mm Ø
9236	70 mm Ø	9239	150 mm Ø
9237	100 mm Ø		

Test tube racks

plastic, for tubes 160 x 16 mm



9255	12 samples
9256	25 samples, PP, sterilizable to 121°C
9257	36 samples, wire, plastic coated

Burette stand

9400	plate 210 x 130 mm with rod 750 mm
9401	tripod 210 x 130 mm with rod 750 mm

Bosshead

9405	

Bosshead

9406	turntable

Clamps

9407	25 mm, without bosshead
9408	60 mm, without bosshead

Retord ring

160 mm, with bosshead

9409	

Burette clamps

9410	single, with bosshead
9411	double, with bosshead

Laboratory clock

0 – 60 Min., with alarm

9440	

Laboratory vacuum pump/compressor

electrical, applicable as vacuum or pressure pump,
capacity max. 16 l/min., max. operating pressure 3.5 bar

9470	

Dispensers

semi-automatic, for aggressive acids and lyes without flask

9480	0,4 – 2 ml : 1/10
9481	2 – 10 ml : 1/5
9482	10 – 50 ml : 1/1
9483	20 – 100 ml : 2/1

Microlitre pipettes

with fixed volume in sizes from 5 to 1000 µl

9490	

Microlitre pipettes

with variable volume, with tip release

9495	10 – 100 µl
9496	20 – 200 µl
9497	200 – 1000 µl

Pipette tips

9510	1 – 200 µl (yellow), 1000 pieces
9511	50 – 1000 µl (blue), 1000 pieces

Filter

various diameter

9512	

FUNKE GERBER

Universal Ovens

Equipment	Typ	Ext. dimensions (W/H/D) [mm]	Int. dimensions (W/H/D) [mm]	Volume [Liter]	Support rips for shelves/ Shelves supplied with oven	Watt/Volt (U/S-/B-Typ)	Kg (Net)	Order-Num
Universal-oven "UM" Thermostatic temperature control, digital temperature display, passive through circulation	**UM 100**	470/520/325	320/240/175	14	2/1	600/230	20	**6000**
	UM 200	550/600/400	400/329/250	32	3/1	1100/230	28	**6001**
	UM 300	630/600/400	480/320/250	39	3/1	1200/230	30	**6002**
	UM 400	550/680/480	400/400/330	53	4/2	1400/230	35	**6003**
	UM 500	710/760/550	560/480/400	108	5/2	2000/230	50	**6004**
	UM 600	950/920/650	800/640/500	256	7/2	2400/230	87	**6005**
	UM 700	1190/1080/650	1040/800/500	416	9/2	4000/4003phN	121	**6006**
	UM 800	1190/1605/750	1040/1200/600	749	14/2	4800/4003phN	170	**6007**
Universal-oven "ULM" Thermostatic temperature control, digital temperature display, electrical blower	**ULM 400**	550/680/480	400/400/330	53	4/2	1400/230	35	**6008**
	ULM 500	710/760/550	560/480/400	108	5/2	2000/230	50	**8009**
	ULM 600	950/920/650	800/640/500	256	7/2	2400/230	87	**6010**
	ULM 700	1190/1080/650	1040/800/500	416	9/2	4000/4003phN	121	**6011**
	ULM 800	1190/1605/750	1040/1200/600	749	14/2	4800/4003phN	170	**6012**
Universal-oven "UE" Electronic temperature control (PID), digital watch, serial interface, passive through circulation	**UE 200**	550/600/400	400/329/250	32	3/1	1100/230	28	**6013**
	UE 300	630/600/400	480/320/250	39	3/1	1200/230	30	**6014**
	UE 400	550/680/480	400/400/330	53	4/2	1400/230	35	**6015**
	UE 500	710/760/550	560/480/400	108	5/2	2000/230	50	**6016**
	UE 600	950/920/650	800/640/500	256	7/2	2400/230	87	**6017**
	UE 700	1190/1080/650	1040/800/500	416	9/2	4000/4003phN	121	**6018**
	UE 800	1190/1605/750	1040/1200/600	749	14/2	4800/4003phN	170	**6019**
Universal-oven "ULE" Electronic temperature control (PID), digital watch, serial interface, electrical blower	**ULE 400**	550/680/480	400/400/330	53	4/2	1400/230	35	**6020**
	ULE 500	710/760/550	560/480/400	108	5/2	2000/230	50	**6021**
	ULE 600	950/920/650	800/640/500	256	7/2	2400/230	87	**6022**
	ULE 700	1190/1080/650	1040/800/500	416	9/2	4000/4003phN	121	**6023**
	ULE 800	1190/1605/750	1040/1200/600	749	14/2	4800/4003phN	170	**6024**
Universal-oven "UP" Electronic temperature control with process controller (PID), programmable, serial and parallel interfaces, passive through circulation	**UP 400**	550/680/480	400/400/330	53	4/2	1400/230	35	**6025**
	UP 500	710/760/550	560/480/400	108	5/2	2000/230	50	**6026**
	UP 600	950/920/650	800/640/500	256	7/2	2400/230	87	**6027**
	UP 700	1190/1080/650	1040/800/500	416	9/2	4000/4003phN	121	**6028**
	UP 800	1190/1605/750	1040/1200/600	749	14/2	4800/4003phN	170	**6029**
Universal-oven "ULP" Electronic temperature control with process controller (PID), programmable, serial and parallel interfaces, electrical blower	**ULP 400**	550/680/480	400/400/330	53	4/2	1400/230	35	**6030**
	ULP 500	710/760/550	560/480/400	108	5/2	2000/230	50	**6031**
	ULP 600	950/920/650	800/640/500	256	7/2	2400/230	87	**6032**
	ULP 700	1190/1080/650	1040/800/500	416	9/2	4000/4003phN	121	**6033**
	ULP 800	1190/1605/750	1040/1200/600	749	14/2	4800/4003phN	170	**6034**

Incubators/Sterilizers

Equipment	Typ	Ext. dimensions (W/H/D) [mm]	Int. dimensions (W/H/D) [mm]	Volume [Liter]	Support rips for shelves/ Shelves supplied with oven	Watt/Volt (U/S-/B-Typ)	Kg (Net)	Order-Num
Incubator "BE" Electronic temperature control (PID), digital watch, serial interface, passive through circulation	**BE 200**	550/600/400	400/329/250	32	3/1	1100/230	28	**6035**
	BE 300	630/600/400	480/320/250	39	3/1	1200/230	30	**6036**
	BE 400	550/680/480	400/400/330	53	4/2	1400/230	35	**6037**
	BE 500	710/760/550	560/480/400	108	5/2	2000/230	50	**6038**
	BE 600	950/920/650	800/640/500	256	7/2	2400/230	87	**6039**
	BE 700	1190/1080/650	1040/800/500	416	9/2	1800/230	121	**6040**
	BE 800	1190/1605/750	1040/1200/600	749	14/2	2000/230	170	**6041**
Incubator "BP" Electronic temperature control with process controller (PID), programmable, serial and parallel interfaces, passive through circulation	**BP 400**	550/680/480	400/400/330	53	4/2	1400/230	35	**6042**
	BP 500	710/760/550	560/480/400	108	5/2	2000/230	50	**6043**
	BP 600	950/920/650	800/640/500	256	7/2	2400/230	87	**6044**
	BP 700	1190/1080/650	1040/800/500	416	9/2	1800/230	121	**6045**
	BP 800	1190/1605/750	1040/1200/600	749	14/2	2000/230	170	**6046**
Sterilizer "SM" Thermostatic temperature control, digital temperature display, passive through circulation	**SM 100**	470/520/325	320/240/175	14	2/1	600/230	20	**6047**
	SM 200	550/600/400	400/329/250	32	3/1	1100/230	28	**6048**
	SM 300	630/600/400	480/320/250	39	3/1	1200/230	30	**6049**
	SM 400	550/680/480	400/400/330	53	4/2	1400/230	35	**6050**
Sterilizer "SLM" Thermostatic temperature control, digital temperature display, electrical blower	**SLM 400**	550/680/480	400/400/330	53	4/2	1400/230	35	**6051**
	SLM 500	710/760/550	560/480/400	108	5/2	2000/230	50	**6052**
	SLM 600	950/920/650	800/640/500	256	7/2	2400/230	87	**6053**
	SLM 700	1190/1080/650	1040/800/500	416	9/2	4000/4003phN	121	**6054**
	SLM 800	1190/1605/750	1040/1200/600	749	14/2	4800/4003phN	170	**6055**
Sterilizer "SE" Electronic temperature control (PID), digital watch, serial interface, passive through circulation	**SE 200**	550/600/400	400/329/250	32	3/1	1100/230	28	**6056**
	SE 300	630/600/400	480/320/250	39	3/1	1200/230	30	**6057**
	SE 400	550/680/480	400/400/330	53	4/2	1400/230	35	**6058**
								6059
Sterilizer "SLE" Electronic temperature control (PID), digital watch, serial interface, electrical blower	**SLE 400**	550/680/480	400/400/330	53	4/2	1400/230	35	**6060**
	SLE 500	710/760/550	560/480/400	108	5/2	2000/230	50	**6061**
	SLE 600	950/920/650	800/640/500	256	7/2	2400/230	87	**6062**
	SLE 700	1190/1080/650	1040/800/500	416	9/2	4000/4003phN	121	**6063**
	SLE 800	1190/1605/750	1040/1200/600	749	14/2	4800/4003phN	170	**6064**
Sterilizer "SLP" Electronic temperature control with process controller (PID), programmable, serial and parallel interfaces, electrical blower	**SLP 400**	550/680/480	400/400/330	53	4/2	1400/230	35	**6065**
	SLP 500	710/760/550	560/480/400	108	5/2	2000/230	50	**6066**
	SLP 600	950/920/650	800/640/500	256	7/2	2400/230	87	**6067**
	SLP 700	1190/1080/650	1040/800/500	416	9/2	4000/4003phN	121	**6068**
	SLP 800	1190/1605/750	1040/1200/600	749	14/2	4800/4003phN	170	**6069**
Cooling incubator "ICP" process controller (PID) from 0 to +60 °C, programmable, serial and parallel interfaces, electrical blower	**ICP 400**	558/967/486	400/400/330	53	4/2	500/230	68	**6070**
	ICP 500	718/1047/556	560/480/400	108	5/2	500/230	87	**6071**
	ICP 600	958/1335/656	800/640/500	256	7/2	700/230	144	**6072**
	ICP 700	1198/1495/656	1040/800/500	416	9/2	750/230	178	**6073**
	ICP 800	1198/1895/756	1040/1200/600	749	14/2	1200/230	227	**6074**

Terms and Conditions of Delivery and Payment

1. The following terms and conditions are relevant for each placed order. Any modification is only valid if it was explicitly confirmed by us in writing. Any agreement that was made orally by phone or through a sales representative is only valid after written confirmation.
2. All our offers are subject to changes with regard to prices, quantities, possibilities and time of delivery.
3. All prices are EX WORKS Berlin.
4. The invoice total becomes due not later than 30 days after the date of issue regardless of any notice of defects.
5. The goods remain the property of the seller until all payments, including future claims, are made.
6. Indicated times of delivery in our offers are approximate and are subject to changes. The delivery time starts with the date of the order's confirmation but not before there is a final agreement about the order in writing. Fortuitous events (force majeure) and incapacity through no fault of us or our subcontractors entitle us to prolong the delivery time appropriately or to withdraw from the contract for sale without resulting claims for damage on the part of the buyer.
   A claim for damages by the buyer resulting from delayed delivery is excluded, also after the end of an extension time that was determined by the buyer.
   The buyer should only declare a withdrawal if we are in default and do not meet our delivery deadline culpably during an adequate extension time that was fixed by the buyer in writing.
7. Goods are delivered at the risk of the buyer. The risk should be transferred to the buyer as soon as the goods or the order leaves the works.
8. We grant a warranty period of 6 months from the date of invoice for perfect working of the instruments and devices that were delivered by us. The warranty is limited to such defects of the instruments and devices that were not caused by natural wear or improper operation or handling.Warranty should either be repair or replacement of the objected device which remains at our discretion. A claim to redhibition or reduction is excluded.

   Shipment of instruments, devices and spare parts shall be payable by the buyer. Return shipment of repaired or replaced parts shall be payable by the seller.

   Any obligation to warranty should expires if the buyer or a third party changes or repairs the instrument or device.
9. Complaints due to incomplete or incorrect deliveries or complaints because of visible defects should be stated in writing immediately but not later than 8 days after the goods were received. Defects that become apparent later are to be stated immediately after they were discovered. If the statement is not made in time, all warranty claims should expire.
10. Place of delivery and performance is Berlin and any disputes arising hereunder will be settled before a competent Berlin court of law. German law is applied. An annulment of any part of these terms and conditions does not result in its overall annulment.