Versuchs- und Lehranstalt für Brauerei in Berlin (VLB)

Research and Teaching Institute for Brewing in Berlin – Germany

VLB BERLIN

VLB LaboTech GmbH

Laboratory Equipment
for the analysis of raw materials, intermediate- and final products and by-products in the brewing, malting, distilling and beverage industries and for producers of non-alcoholic beverages

Delivery Program

valid from September 2013

Research, Teaching, Consulting, Information and Service for the Brewing, Malting and Beverage Industries since 1883

Edition E

Index

Laboratory equipment for analysing raw materials, interproducts, end products and by-products in breweries, malting plants and the beverage industry

We offer you experiences and assistance as your competent partner for all questions according to quality control in plants of the brewing and malting industries, for distillers and producer of soft drinks.

In our catalogue we would present some of about 4500 articles of our equipment to be used for analysing of raw materials (barley, malt, hop, potatoes or melasse), semi products (wort or raw brand), end products (beer, fine brand), water and effluent water. Our delivery program encloses new and approved laboratory devices, special products for biotechnology, also consumer materials in the area of chemical and technical analyses and microbiology. Our catalogue includes numerous pictures of the devices with accessories or the products in application.

But a catalogue is not able to compensate a conversation. So please send your questions and incitation directly to our department. We prepare corresponding offers in details including a short description of the goods and delivery time.

Technical changes in our articles due further development or new analysis devices as well as possible changes in the standard specifications could be cropped up at any time. All quantitative and qualitative analyses are based on the stipulations of „MEBAK“ and „EBC-Analytica“.

Please do not hesitate to contact us if you do not find an article in our delivery program in our catalogue. We will be at your disposal if you have difficulties or problems.

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1 Thermometers

Standard Thermometers

1-0001-00	0 ... 50: 0.1° C, mercury		420 x 9 mm
1-0002-00	50 ...100: 0.1°C, mercury		420 x 9 mm
1-0003-00	0 ... 50: 0.1°C, mercury	officially calibrated	420 x 9 mm
1-0004-00	50 ...100: 0.1°C, mercury	officially calibrated	420 x 9 mm
1-0007-00	0 ...100: 0.2°C, mercury	officially calibrated	420 x 9 mm
1-0010-00	0 ...100: 0.5°C, mercury	officially calibrated	330 x 9 mm
1-0010-02	0 ...100: 0.5°C, mercury	officially calibrated	280 x 9 mm
1-0013-00	0 ...100: 0.2°C, mercury		490 x 13 mm
1-0016-00	0 ...100: 0.5°C, mercury		330 x 9 mm
1-0017-00	0 ...100: 0.5°C, mercury	DIN 12775	260 x 9 mm

Floating vat thermometers

1-0024-00	0...25: 0.2°C, mercury	630 x 28 mm
1-0025-00	-2...24: 0.2°C, coloured alcohol	670 x 28 mm
1-0026-00	3...10: 0.2°C, coloured alcohol	700 x 33 mm

Pasteurization thermometers

1-0050-00	20...75: 0.5°C, mercury	measuring in bottle	200 mm
1-0050-01	20...75: 0.5°C, mercury	measuring outside of bottle	145 mm

Maximum pasteurization thermometers

1-0051-00	20...75: 0.5°C, mercury	measuring in bottle	200 mm
1-0051-01	40...80: 0.5°C, mercury	measuring outside of bottle	145 mm
1-0051-02	40...80: 0.5°C, mercury	measuring in bottle	210 mm

Kiln-dryer thermometer

1-0053-00	0...250: 1.0°C, mercury	350 mm

Distillation thermometer

1-0058-00	0...60: 0.5°C, mercury		200 x 8 mm
1-0058-01	0...100: 0.5°C, mercury		200 x 8 mm
1-0058-03	0...100: 1.0°C, mercury	with NS 14/23	270 x 8 mm

Universal thermometer

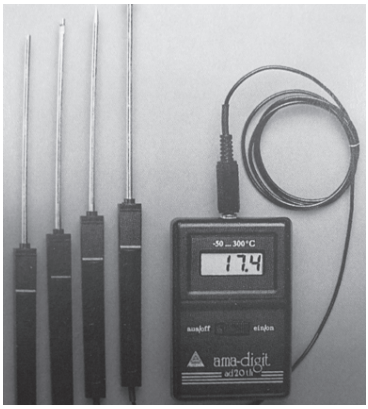
1-0060-00	-10...100: 1.0°C, mercury	250 x 8 mm
1-0060-01	-10...150: 1.0°C, mercury	250 x 8 mm

Thermometer for CO_2-determination

1-0070-00	0...25: 0.2°C, mercury	350 x 8 mm

Digital thermometer

1-0400-00	measuring range from –40 to +120: 0.1°C, incl. sensor and battery
1-0400-10	equipped with a robust and watertight case, measuring range form –50 to 150: 0.1°C, without sensor, with switching from °C to °F.
1-0400-11	dip sensor
1-0400-12	air sensor
1-0400-13	surface sensor
1-0401-00	Measure range from –50 to +150: 0.1°C, official calibration certificate for measuring device and sensor, with watertight sensor, resistant to boiling temperature



Infrared thermometer

1-6000-00 **Type TF,** simple to use, range: -33…+250:0,1°C, short measuring time (1-2 sec.), accuracy: +/- 2% or 2°C, with battery, 20 x 48 x 100 mm.

Temperature recorder for bottle washing

1-7000-00 Logger EBI-125 A with internal sensor

1-7000-01 EBI-Dummy for 0,5 l NRW bottle, made of stainless steel

1-7000-02 EBI-Dummy for 0,5 l NRW bootle, made of Teflon

1-7000-03 EBI-KSY-AE-S – evaluation system with interface

1-7000-04 WINLOG 2000 prof. – software for PE and F-calculation

Area of application
With hydrometers the density of liquids can be measured. The density is the ratio of mass to volume of a material and it is measured in g/ml or in g/cm3. Transparent and non-transparent liquids must be measured with differently standardized hydrometers. Hydrometers for non-transparent liquids are marked with a green colored ring.
- Reference temperature for density measurements = 20°C.
- Hydrometers are adjusted to this temperature.
- Standard temperature measuring range from 0°C to +35°C.

Selection factors
Each hydrometer is designed for a special measuring situation. Factors of influence are:
- temperature
- surface tension
- density
Select the hydrometers suitable for the liquid and the accuracy desired.

Factor: temperature
The density of the test liquid changes according to the temperature. Hydrometers are adjusted to a liquid temp. 20°C = reference temperature (exceptions: reference temperature = 15°C applies to mineral oil hydrometers referring to Baume).
The test liquid is to be adapted to the reference temperature if possible.

Factor: Surface tension
Surface tension and colour identification:

Surface tension	Density class	Density in g/ml	Colour ring marking
low	L (low)	0.600-1.000	yellow
medium	M (medium)		red
high	H (high)	1.000 - 2.000	blue

Hydrometers for measuring of non-transparent liquids, which are read „above“green

Factory: Density
Hydrometers are adjusted to a density range = measuring range. In the case of a large measuring range the subdivision can only be rough. For precise measurements a hydrometer with a smaller measuring range and finer subdivisions must be selected.

Preparations for measuring: Selection of the measuring tube.
Transparent cylinders of glass or plastic, material are suitable as measuring tube

- Height = min. Length of the hydrometer
- Diameters = min. hydrometer + 1.5cm = max. hydrometer + 3.0cm

Hydrometers must be able to swim freely and must not touch the cylinder.
There will be difficulties in reading if you use measuring tubs being too wide.

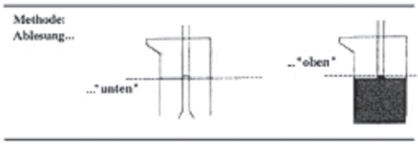
Cleaning and drying:
Cleanliness increases the measuring accuracy. Fingerprints and smallest impurity can lead to wrong reading results. Clean hydrometers and measuring cylinders with alcohol and dry them by help of a lint-free cloth.

Attention: After the cleaning you can only touch the measuring instrument at the stack point above the scale reading.

Filling of the measuring cylinder:
-fill the measuring cylinder 2/3 to 3/4
(the volume of the hydrometer must be taken into consideration)
-Please avoid air bubbles. If there are air bubbles, you can dissolve them by knocking at the cylinder. In the case of overflow: a small quantity must overflow, then the surface of the liquid is purified so that you can read out the values more accurately. The temperature of the test liquid has to be warmed up to the reference temperature.

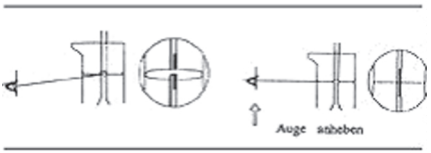
Agitating:
Please stir the liquid up and down with a ring agitator, so that there will be no differences in temperature and density.

Measurement:
Please immers the hydrometer, then please touch the hydrometer at the top of the stem with dry fingers. Then you should immerse it into the liquid until it will be floating (about position of equilibrium). The reading line should not immerse into the liquid more than 3mm deep. Otherwise the measuring value may be wrong because of adhesive liquid.
Then you should give the hydrometer a chance to rest. Please verify that the hydrometer does not touch the vessel at any point. Liquid transparent non – transparent.
Level of measurement fluid level upper edge of bulge (meniscus)



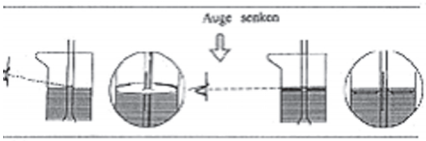
Transparent liquids
You should place your eyes in a position below the level of the level of the liquid. From below the surface has the shape of an ellipse. Then you should slowly go up with your eyes until the ellipse will „shrink“ to a line. Line = level of measurement – Now you have to read the value at the scale in the liquid.

go up with your eyes



Non – transparent liquids
Put your eyes in a position that they are above the edge of the bulge. The surface as well as the bulge seem to have the shape of an ellipse from the top. Then you should slowly go down with your eyes until the ellipse „shrinks“ to a line. Line „ level of measurement then read the value at the scale above the liquid.

go down with your eyes



Verification of the measurement
The measurement is correct if the bulge does not change after a disturbance. If there are changes, this means that there is an impurity. In that case the measurement has to be repeated.

Final – cleaning
After the measurement the hydrometer has to be cleaned from the test liquid. Then you should dry it and store it at a place free of dust where it cannot easily break.

Safety requirements In order to avoid injuries of yourself or of other persons as well as damages of the instruments, please observe the following rules.

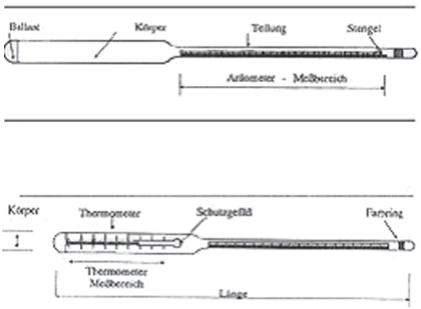
Please protect the articles against heat
If the temperature exceeds 80°C, the ballast material can soften and therefore lead to errors in measuring. For this reason the products must not be stored on heaters or in the blazing sun, as for example windows directed to the south or in cars.

Please pack the instruments in such a way that they cannot easily break
Please put the instruments back into the packaging after each measurement. The hydrometers are packed in individual casings and cases to avoid breakage. In the case of frequent application please use the support stand as place to keep it.

After breakage of a hydrometer
If a hydrometer broke please sweep the fragments carefully together with a hand brush. Please do not use any cloth and never use just your hands.

We advise you to be cautious with mercury, it is high – toxic !
If a hydrometer with a mercury thermometer broke, you must collect the mercury first. The mercury should be collected by help of mercury pliers or a mercury pipette. Cracks and corners should also be cleaned carefully. Remainders should be collected with absorbents.
Mercury collected must be kept under water in order to avoid evaporation. Mercury has to be disposed off as toxic waste.

Description of the instrument



2 Saccharometer

Officially calibrated saccharometers can be delivered with the corresponding certificate for an extra charge. Please, indicate this detail when you pass your order.

Saccharometer for sugar, upper level read-off, with thermometer scale ranging from 0 to 35°C, temperature correction table, standard temperature 20°C, for cylinder No. 3-2000-30 or No. 3-2100-30

2-0100-00	0.9...14.6: 0.1%mas, mercury	375 mm	
2-0100-01	0.9...14.6: 0.1%mas, mercury	375 mm	officially calibrated
2-0100-02	10...25: 0.1%mas, mercury	375 mm	
2-0100-03	10...25: 0.1%mas, mercury	375 mm	officially calibrated
2-0100-04	30...80: 0.5%mas, mercury	380 mm	
2-0100-05	53...75: 0.1%mas, mercury	450 mm	

Saccharometer for sugar, lower level read-off, with thermometer and temperature correction table, standard temperature 20°C

2-0100-06	3...13: 0.1 %mas, mercury	310 mm
2-0100-07	0...15: 0.1 %mas, mercury	390 mm
2-0100-08	40 65: 0.1 %mas, mercury	450 mm
2-0100-09	30...50: 0.2°Brix, mercury	380 mm
2-0100-10	50...70: 0.2°Brix, mercury	330 mm

Saccharometer brewing house, 400 mm long, upper level read-off with thermometer and temperature correction table, standard temperature 20°C, for cylinder No. 3-2000-30 or 3-2100-10

2-1000-00	0.....5 0.1 %mas, mercury	
2-1000-01	0.....5: 0.1 %mas, mercury	officially calibrated
2-1000-02	5...10: 0.1 %mas, mercury	
2-1000-03	5...10: 0.1 %mas, mercury	officially calibrated
2-1000-04	10...15: 0.1 %mas, mercury	
2-1000-05	10...15: 0.1 %mas, mercury	officially calibrated
2-1000-06	15 20: 0.1 %mas, mercury	
2-1000-07	15...20: 0.1 %mas, mercury	officially calibrated
2-1000-08	20...25: 0.1 %mas, mercury	
2-1000-09	20...25: 0.1 %mas, mercury	officially calibrated
2-1000-10	25...30: 0.1 %mas, mercury	
2-1000-11	25...30: 0.1 %mas, mercury	officially calibrated
2-1000-20	0.....5: 0.1 %mas, coloured alcohol	
2-1000-21	5...10: 0.1 %mas, coloured alcohol	
2-1000-22	10...15: 0.1 %mas, coloured alcohol	
2-1000-23	15...20: 0.1 %mas, coloured alcohol	

Vat saccharometer, without thermometer, total length 650 mm, N.T. 6°C

2-1100-00	0...10: 0.1 %mas
2-1100-01	10...20: 0.1 %mas
2-1100-02	0...20: 0.2 %mas

Special end-fermentation saccharometer, with thermometer scale ranging from 5 to 30°C and temperature correction table, upper level read-off for cylinder No. 3-2000-50 or 3-2100-40

2-1200-00	0.....3: 0.05 %mas, mercury, 290 mm
2-1200-01	2.....5: 0.05 %mas, mercury, 290 mm
2-1200-02	-1...+5: 0.1 %mas, mercury, 270 mm, 0...30°C

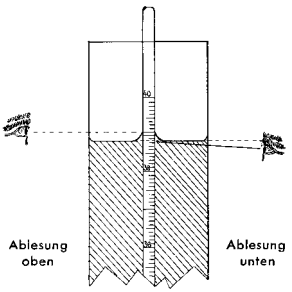
2- 2600-00 Set for determination of final degree of fermentation (acc. to EBC)
-1..+5:0,1%mas, 0...+3:0,05%mas and 2...5:0,05%mas, with thermometer and corr., complete with device for drying of yeast, fermentation seal, magnetic stirrer and anti foam emulsion, with cylinder and cardanic tripod

Saccharometer for diabetic beer, with thermometer scale ranging from 3 to 30°C and temperature correction table, for cylinder No. 3-2000-50 or 3-2100-50

2-1280-00	-1...+1: 0.05 %mas, mercury, 270 mm

Standard saccharometer, 400 mm long, with thermometer from 1 to 30°C and temperature correction table, for cylinders No. 3-2000-30 or No. 3-2100-20, if required officially tested or officially calibrated, to be delivered with and without certificate

2-1300-00	0.....3: 0.05 %mas, mercury
2-1300-01	3.....6: 0.05 %mas, mercury
2-1300-02	6.....9: 0.05 %mas, mercury
2-1300-03	9...12: 0.05 %mas, mercury
2-1300-04	12...15: 0.05 %mas, mercury
2-1300-05	15...18: 0.05 %mas, mercury
2-1300-06	18...21: 0.05 %mas, mercury
2-1300-07	21...24: 0.05 %mas, mercury



Standard-saccharometer for general malt analysis, 380 mm long, with thermometer scale ranging from 5 to 30°C and temperature correction table for cylinder No. 3-2000-30 or 3-2100-20

2-1400-00	0.....1: 0.01 %mas, mercury	with error index
2-1400-01	0.....1: 0.01 %mas, mercury	officially tested
2-1400-02	1.....2: 0.01 %mas, mercury	with error index
2-1400-03	1.....2: 0.01 %mas, mercury	officially tested
2-1400-04	2.....3: 0.01 %mas, mercury	with error index
2-1400-05	2.....3: 0.01 %mas, mercury	officially tested
2-1400-06	3.....4: 0.01 %mas, mercury	with error index
2-1400-07	3.....4: 0.01 %mas, mercury	officially tested
2-1400-08	4.....5: 0.01 %mas, mercury	with error index
2-1400-09	4.....5: 0.01 %mas, mercury	officially tested
2-1400-10	5.....6: 0.01 %mas, mercury	with error index
2-1400-11	5.....6: 0.01 %mas, mercury	officially tested
2-1400-12	6.....7: 0.01 %mas, mercury	with error index
2-1400-13	6.....7: 0.01 %mas, mercury	officially tested
2-1400-14	7.....8: 0.01 %mas, mercury	with error index
2-1400-15	7.....8: 0.01 %mas, mercury	officially tested
2-1400-16	8.....9: 0.01 %mas, mercury	with error index
2-1400-17	8.....9: 0.01 %mas, mercury	officially tested
2-1400-18	9...10: 0.01 %mas, mercury	with error index
2-1400-19	9...10: 0.01 %mas, mercury	officially tested
2-1400-20	10...11: 0.01 %mas, mercury	with error index
2-1400-21	10...11: 0.01 %mas, mercury	officially tested
2-1400-22	11...12: 0.01 %mas, mercury	with error index
2-1400-23	11...12: 0.01 %mas, mercury	officially tested
2-1400-24	12...13: 0.01 %mas, mercury	with error index
2-1400-25	12...13: 0.01 %mas, mercury	officially tested
2-1400-26	13...14: 0.01 %mas, mercury	with error index
2-1400-27	13...14: 0.01 %mas, mercury	officially tested
2-1400-28	14...15: 0.01 %mas, mercury	with error index
2-1400-29	14...15: 0.01 %mas, mercury	officially tested

Standard pocket saccharometer, 260 mm long, upper level read-off, with thermometer scale ranging from 0 to 30°C and with temperature correction table, for cylinder No. 3-2000-50 or 3-2100-50

2-1500-00	0.....7: 0.1 %mas, mercury	
2-1500-01	0.....7 :0.1 %mas, mercury	officially calibrated
2-1500-02	7...14: 0.1 %mas, mercury	
2-1500-03	7...14: 0.1 %mas, mercury	officially calibrated
2-1500-04	14...21: 0.1 %mas, mercury	
2-1500-05	14...21: 0.1 %mas, mercury	officially calibrated
2-1500-06	21...28: 0.1 %mas, mercury	
2-1500-07	21...28: 0.1 %mas, mercury	officially calibrated

Standard saccharometer, with thermometer from 4 to 26°C and temperature correction table, for cylinder No. 3-2000-30 or 3-2100-20

2-1600-00	0...24: 0.1 %mas, mercury	490 mm, cyl. 3-2000-80
2-1600-01	0...24: 0.1 %mas, mercury	officially calibrated
2-1600-02	0...10: 0.1 %mas, mercury	360 mm
2-1600-03	0...10: 0.1 %mas, mercury	officially calibrated
2-1600-04	10 20: 0.1 %mas, mercury	360 mm
2-1600-05	10...20: 0.1 %mas, mercury	officially calibrated
2-1600-06	20...30: 0.1 %mas, mercury	360 mm
2-1600-07	20...30: 0.1 %mas, mercury	officially calibrated
2-1600-20	0...10: 0.1 %mas, coloured alcohol	370 mm
2-1600-21	10...20: 0.1 %mas, coloured alcohol	370 mm
2-1600-22	0...11: 0.1 %mas, coloured alcohol	390 mm
2-1600-30	0...20: 0.1 %mas, mercury	440 mm, cyl. 3-2100-10
2-1600-31	0...20: 0.1 %mas, mercury	officially calibrated

Small beer wort hydrometer, with thermometer scale ranging from 5 to 25°C and with temperature correction table, for cylinder No. 3-2000-70

2-1700-00	0.....7: 0.2 %mas, mercury, 180 mm, 5-25°C
2-1700-01	0...15: 0.5 %mas, mercury, 180 mm, 0-35°C
2-1700-02	0...15: 0.1 %mas, mercury, 425 mm, 4-26°C

Areometer for determination of extracts , in wort and beer, 360 mm long, upper level read-off, with thermometer scale ranging from 15 to 25°C and with temperature correction for cylinder No. 3-2000-00 or
3-2100-20

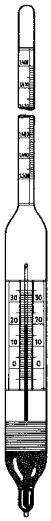
2-1800-00	0.9974...1.0036 : 0.0002	officially calibrated
2-1800-01	1.0014...1.0156 : 0.0002	officially calibrated
2-1800-02	1.0134...1.0275 : 0.0002	officially calibrated
2-1800-03	1.0255...1.0395 : 0.0002	officially calibrated
2-1800-04	1.0370...1.0500 : 0.0002	officially calibrated

Density hydrometer, without thermometer, 300 mm for cylinder No. 3-2000-10

2-1900-00	0.900...1.000 : 0.001
2-1900-01	1.000...1.100 : 0.001
2-1900-02	1.100...1.200 : 0.001
2-1900-03	1.200...1.300 : 0.001
2-1900-04	1.300...1.400 : 0.001

Density hydrometer according to DIN 12791, 240 mm long, with thermometer scale ranging from 0 to 30°C, for cylinder No. 3-2000-20

2-2000-00	0.900...0.950 : 0.0005
2-2000-01	0.950...1.000 : 0.0005
2-2000-02	1.000...1.050 : 0.0005
2-2000-03	1.050...1.100 : 0.0005
2-2000-04	1.100...1.150 : 0.0005
2-2000-05	1.150...1.200 : 0.0005
2-2000-06	1.200...1.250 : 0.0005
2-2000-07	1.250...1.300 : 0.0005
2-2000-08	1.300...1.350 : 0.0005
2-2000-09	1.350...1.400 : 0.0005
2-2000-10	1.400...1.450 : 0.0005
2-2000-11	1.450...1.500 : 0.0005
2-2000-12	1.500...1.550 : 0.0005
2-2000-13	1.550...1.600 : 0.0005
2-2000-14	1.600...1.650 : 0.0005
2-2000-15	1.650...1.700 : 0.0005
2-2000-16	1.700...1.750 : 0.0005
2-2000-17	1.750...1.800 : 0.0005
2-2000-18	1.800...1.850 : 0.0005
2-2000-19	1.850...1.900 : 0.0005
2-2000-20	1.900...1.950 : 0.0005
2-2000-21	1.950...2.000 : 0.0005



Aerometer for boiler water supply according to Dr. Ammer

2-2100-00 -1...+1 : 0.1 % Bé, 300 mm long

Saccharimeter for sweet and fermented mash
with thermometer, about 280-300 mm long

2-3000-00 -1….+7 : 0,1 %mas

2-3000-01 6…..26 : 0,5 %mas

2-3000-02 -1…+24 : 0,5 %mas

Alcoholometer EG Klasse III, acc. to DIN 12803, with thermometer, for 200 ml destillate, 350 mm long, for cylinder no. 3-2100-70

range	off. calibrated	without calibration
0 - 5 : 0,1 % vol.	2-6000-00	2-7000-00
5 - 10 : 0,1 % vol.	2-6000-01	2-7000-01
10 - 15 : 0,1 % vol.	2-6000-02	2-7000-02
15 - 20 : 0,1 % vol.	2-6000-03	2-7000-03
20 - 25 : 0,1 % vol.	2-6000-04	2-7000-04
25 - 30 : 0,1 % vol.	2-6000-05	2-7000-05
30 - 35 : 0,1 % vol.	2-6000-06	2-7000-06
35 - 40 : 0,1 % vol.	2-6000-07	2-7000-07
40 - 45 : 0,1 % vol.	2-6000-08	2-7000-08
45 - 50 : 0,1 % vol.	2-6000-09	2-7000-09
50 - 55 : 0,1 % vol.	2-6000-10	2-7000-10
55 - 60 : 0,1 % vol.	2-6000-11	2-7000-11
60 - 65 : 0,1 % vol.	2-6000-12	2-7000-12
65 - 70 : 0,1 % vol.	2-6000-13	2-7000-13
70 - 75 : 0,1 % vol.	2-6000-14	2-7000-14
75 - 80 : 0,1 % vol.	2-6000-15	2-7000-15
80 - 85 : 0,1 % vol.	2-6000-16	2-7000-16
85 - 90 : 0,1 % vol.	2-6000-17	2-7000-17
90 - 95 : 0,1 % vol.	2-6000-18	2-7000-18
95 - 100 : 0,1 % vol.	2-6000-19	2-7000-19
98 - 103 : 0,1 % vol.	2-6000-20	2-7000-20

Alcoholometer EG Klasse II, with thermometer, for 200 ml destillate, 400 mm long, for cylinder no. 3-2000-20 or no. 3-2100-21

range	off. calibrated	without calibration
0 - 10 : 0,1 % vol.	2-8000-00	2-8001-00
10 - 20 : 0,1 % vol.	2-8000-01	2-8001-01
20 - 30 : 0,1 % vol.	2-8000-02	2-8001-02
30 - 40 : 0,1 % vol.	2-8000-03	2-8001-03
40 - 50 : 0,1 % vol.	2-8000-04	2-8001-04
50 - 60 : 0,1 % vol.	2-8000-05	2-8001-05
60 - 70 : 0,1 % vol.	2-8000-06	2-8001-06
70 - 80 : 0,1 % vol.	2-8000-07	2-8001-07
80 - 90 : 0,1 % vol.	2-8000-08	2-8001-08
90 - 100 : 0,1 % vol.	2-8000-09	2-8001-09
35 - 45 : 0,1 % vol.	2-8000-10	2-8001-10

Alcoholometer for vinegar, with thermometer, for 100 ml destillate, 250 mm long, for cylinder no. 3-2100-60

2-7200-00	0.….3 : 0,1 %vol	2-7200-05	16…20 : 0,1 %vol
2-7200-01	3.….6 : 0,1 %vol	2-7200-06	20…24 : 0,1 %vol
2-7200-02	6.….9 : 0,1 %vol		
2-7200-03	9…12 : 0,1 %vol		
2-7200-04	12…16 : 0,1 %vol		

Alcoholometer, with thermometer, for 100 ml destillate, 250 mm long, for cylinder no. 3-2000-50 or no. 3-2100-80

2-8500-00	0…10 :0,2 %vol	2-8500-05	50.….60 : 0,2 %vol
2-8500-01	10…20 : 0,2 %vol	2-8500-06	60.….70 : 0,2 %vol
2-8500-02	20…30 : 0,2 %vol	2-8500-07	70.….80 : 0,2 %vol
2-8500-03	30…40 : 0,2 %vol	2-8500-08	80.….90 : 0,2 %vol
2-8500-04	40…50 : 0,2 %vol	2-8500-09	90…100 : 0,2 %vol

Alcoholometer, with thermometer and error index, for 100 ml destillate, 255 mm long, for cylinder no. 3-2000-50 or No. 3-2100-80

2-9000-00	0.….7 : 0,1 %vol	2-9000-09	52.….59 : 0,1 %vol
2-9000-01	5…12 : 0,1 %vol	2-9000-10	58.….65 : 0,1 %vol
2-9000-02	10…17 : 0,1 %vol	2-9000-11	63.….71 : 0,1 %vol
2-9000-03	16…23 : 0,1 %vol	2-9000-12	70.….77 : 0,1 %vol
2-9000-04	22…29 : 0,1 %vol	2-9000-13	76.….83 : 0,1 %vol
2-9000-05	28…35 : 0,1 %vol	2-9000-14	82.….89 : 0,1 %vol
2-9000-06	34…41 : 0,1 %vol	2-9000-15	88.….95 : 0,1 %vol
2-9000-07	40…47 : 0,1 %vol	2-9000-16	93…100 : 0,1 %vol
2-9000-08	46…53 : 0,1 %vol		

Template Alcoholometer

2-9500-00	0...100 %vol	250 mm	without thermometer
2-9900-00	0...100 % vol	320 mm	with thermometer

Alcoholometer, with thermometer, for 200 ml destillate, 450 mm long, for cylinder no. 3-2000-20 or no. 3-2100-20

2-9900-07	10…..67 : 0,5 %vol	off. calibrated
2-9901-00	10…..67 : 0,5 %vol	
2-9900-08	65…100 : 0,2 %vol	off. calibrated
2-9901-01	65…100 : 0,2 %vol	

3 Auxiliary tools for areometry

Glass cylinder with base

	a= ∅ interior	b= ∅ exterior	f=clear height
3-2000-00	50	54	520
3-2000-10	58	66	450
3-2000-20	39	44	425
3-2000-30	40	44	390
3-2000-31	32	34	380
3-2000-50	31	35	290
3-2000-60	26	30	286
3-2000-70	33	37	190

Cylinder for cardanic tripod

	a= ∅ interior	b= ∅ exterior	f=clear height
3-2100-00	50	58	520
3-2100-10	42	46	460
3-2100-20	39	44	425
3-2100-40	35	40	335
3-2100-50	34	36	275
3-2100-60	27	30	275
3-2100-70	34	36	360
3-2100-80	26	28	265

Tripod with cardanic suspension device

3-2200-00	for cylinder No. 3-2100-00
3-2200-10	for cylinder No. 3-2100-20
3-2200-11	for cylinder No. 3-2100-10
3-2200-20	for cylinder No. 3-2100-40
3-2000-50	for cylinder No. 3-2100-30, 3-2100-50, 3-2100-40 and 3-2100-70
3-2200-60	wall tripod

3-9999-00 **Support for areometer**angular position for max. 6 areometers with a diameter of up to 30 mm, acid-resistant, grey PVC

3-1000-00 **VLB sugar and original wort table (german edition)**
to convert the density 20/4 of sugar solutions into percentage of sugar, extended to %vol, combined with a table to convert the density ratio 20/20 of alcohol and water mixture to %mass alcohol, correction tables as well as tables to define the content of original wort in starkbier (high gravity beer) and vollbier (full beer) according to Goldiner, Kleemann, Block, Kämpf

3-1100-00 **Official Alcoholic Table**
Physikalischen Technischen Bundesanstalt

3-1300-00 **Chemical – Technical – Prescription**
for export prescription of monopoly law for spiritus

4 Equipment and instruments to test barley and malt

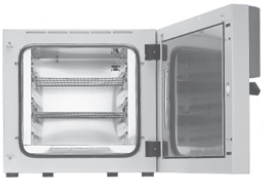
4-1500-00 **Sample divider**
according to EBC agreement with
8 chambers and 3 collecting boxes

4-1550-00 **Barth sampler**
(proof stick), 1 m long, with 8 sealable
chambers made of nickel plated brass

4-1560-00 **Grain sampler**
2 m long, without chamber walls, 8 sealable
compartments, with drain opening in the
handle, brass version with steel point,
∅ 40 mm

4-1600-00 **Aubry germination apparatus**
with 10 plastic plates, to determine
germinating energy

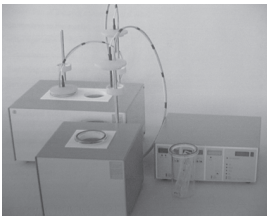
4-1600-01 **Aubry germination apparatus**
with 20 plastic plates



4-3186-60 **Drying Cabinet ED 115**
5-300°C, 115 l,
Chamber int. 60x48x40 cm

8-8230-10 **Filter Sheets type 34/N**
80 g/cm^2, 195 x 195 mm

4-1700-00 **Vivatherm**
for determination of latent germinating power of grain

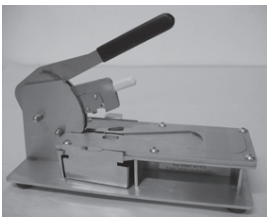


4-1700-01 **Vacuum pump**

4-1700-02 **Cuvette**

4-1700-03 **Grain cutter**

4-1700-04 **Tetrazoliumpowder**10 g

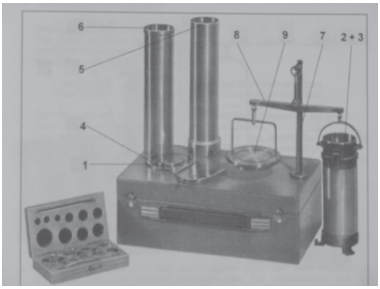


4-1660-00 **Thousand-grain counter** according to Haase-Bauer to determine the 1000-grain weight, counting plate made of aluminium with 500 holes

4-1675-00 **Grain counter device „Contador“**
to reach exakt counting results for a thousand-grain weight of cereals. With lamina keyboard, digital display and trap

4-1675-10 **Filling station Contafill**
Various additional containers on demand

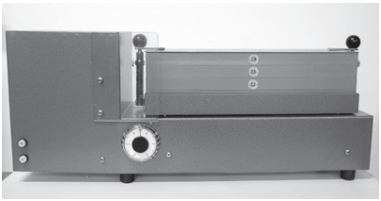
4-1800-00 **Grain tester** 0.25 l, officially calibrated, in polished wooden case to determine the hectolitre weight



4-1880-00 **Grain tester type HECTO 500 ml** for determination of the hectolitre weight (kg/hl) of singles cereals. This instrument is suitable especially for farmer, grain acceptance, universities and field test. Chondrometer made of stainless steel for wheat, rye, barley and oat.

4-1900-00 **Moisture measuring device of the whole grain „Granomat“** fully automatic capacitive measuring device to determine moisture of the product and bulk density (hectolitre weight), including printer and digital display

4-2000-00 **Standard barley sieving macine „VLB“**
instrument used to separate grains according to size with all fittings, in accordance with EBC- and MEBAK agreements, 3 sieves with slid width ranging from 2.2, 2.5 to 2.8 mm, exact milling tolerance ±0.03 mm, with bottom and lid, 230 volts AC, 50 cps



On request, we are offering various standard sieves with or without frame as well as bottoms, lids and spare parts

4-2001-00 **Precision end-value gauge** 2.2 mm ±0.03

4-2001-01 **Precision end-value gauge** 2.5 mm ±0.03

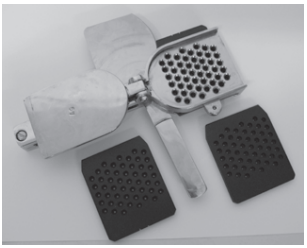
4-2001-02 **Precision end-value gauge** 2.8 mm ±0.03

4-2001-03 **Test certificate for gauge**

4-2100-00 **Standard barley sieve - „SORTIMAT“**
complete with 3 sieves (2,2 – 2,5 and 2,8 mm), lid and bottom, 230 volts AC, 50 cps

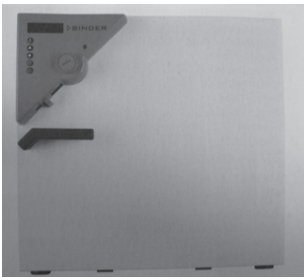
4-2100-06 **Selection device** for break and grain of rye and barley
4-2100-07 **Selection device** for break and grain of wheat
4-2100-08 **Clamp** for break grain
4-2100-10 **Collecting vessel** (5-fold) for malt twin and inner vessel
4-2105-00 **Precision gauge** for checking the slit widths from 0-5 mm

4-1001-00 **Barley cutter**
according to Pohl with brass lid
and 3 reference plates for cross-cutting



4-3000-00 **Friabilimeter**
to divide malt samples into hard and mellow components
230 volts AC, 50 cps

4-3100-00 **Universal drying cabinet, type FD 53**
air-return system, fully automatic,
with timer, temperature scale ranging from 5 to 300°C,
external dimensions: 63 x 62 x 58 cm
53 l, 230 volts AC, 50 cps



4-3200-00 **Malt Modification Analyzer „Microflou“**
for determination of the modification and homogeneity of malt

4-3200-01 **Press**

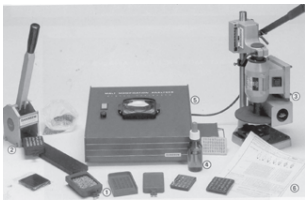
4-3200-02 **Matrix plate**

4-3200-03 **Grinding machine**

4-3200-04 **Accessory plates and calcoflour**

4-3200-05 **Spare parts**, lamps

4-3200-06 **Printer**



8-6000-01 **Weighing pan** made of aluminium, ∅ 50 x 25 mm, to determine moisture content

4-2500-01 **Universal laboratory disk mill DLFU-W23050**
230 volts AC, 50 cps

4-2600-00 **Laboratory Plansifter DLKP-W23050** for exact testing of malt and for adjusting laboratory disk mills, recommended by the Analysis Comittee of the EBC, with 5 sieves lying one on top of the other, 230 volts, 50 cps.

Separate sieves and spare parts can be offered on request.

4-4500-00 **Analysis balance XS 204**
taring range 0...220 g / 1 mg - 0...81g / 0.1 mg

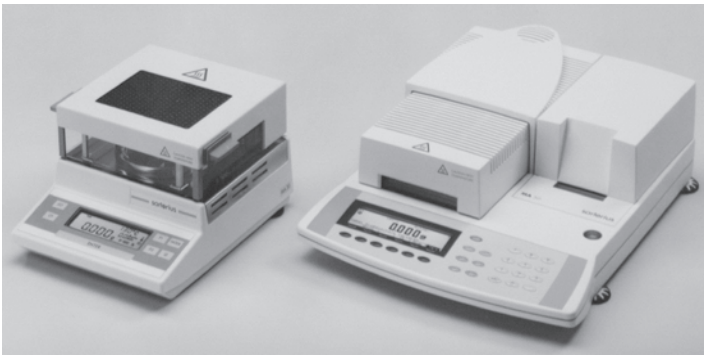
4-4501-00 **Precision balance XS 802-S**
upper-plate balance with internal adjustment taring range
0...810 g / 0.01 g

4-4502-00 **Precision balance XS 8001-S**
taring range 0...8100 g / 0.1 g

4-5001-00 **Moisture measuring device HOH Express HE 50**
with automatic temperature correction, DLG confirmed
Additional temperature gauge – 1; 1,5 and 2 m on demand,
Temperature range: -10...+60/70°C.

4-5002-00 **Moisture analyzer MA 35**
for exact determination of the moisture degree of solids and liquids, up to 35 g, using thermo-gravimetric methods

4-5003-01 **Moisture analyzer MA 150Q**
for samples up to 150 g



4-6000-00 **Macro Kjeldahl conversion and distilling apparatus**
combined apparatus for 6 conversions and 6 distillations to be mounted independantly in the laboratory. With gas-suctioning unit and adapter for flask necks, large washing bottle, water-jet pump, Kjeldahl flasks of 500 or 750 ml, and drip pan

4-6100-00 **Kjeldahl distillations unit K 360**
semi automatic, incl. 3 x 10 l vessels, 220-240 volts AC, 50-60 cps

4-6100-05 **Kjeldahl conversion unit K 435**
12-position version, uniform lateral heating of the conversion tubes, ready to operate, with temperature regulator

4-6100-07 **Scrubber B 414**
complete with all fittings

4-6100-08 **Control unit B 436**
to control timing and performance

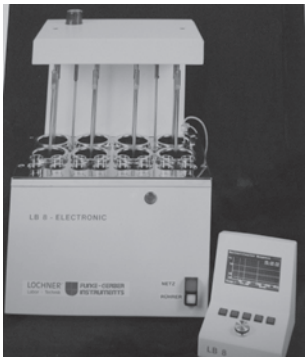
4-6200-00 **Water steam destillations apparatus Vapodest 20**
with microprocessor, for 1 determination of nitrogen (N2) acc.. to Kjeldahl, RS 485 cut point, 230 volts AC, 50/60 cps, 1600 W

4-6260-00 **Water steam destillations apparatus Vapodest 50**
with microprocessor, for 1 determination of nitrogen (N2) acc.. to Kjeldahl, RS 485 cut point, 230 volts AC, 50/60 cps, 1600 W, with internal titration unit

4-6270-00 **Kjeldahl-Conversion Apparatus TT 125** for 12 samples

4-6280-00 **Suction module Turbosog**

4-7500-00 **Mash apparatus**
Computerized mash apparatus for 8 determinations, beakers and stirrers are made of stainless steel, for „Kongress“ and „Hartong“ analysis, additionally 6 customer-defined programmes with eventual storage, printer interface.
230 volts AC, 50 cps



4-7501-00 **Mash apparatus** for 4 determinations
4-7502-00 **Mash apparatus** for 12 determinations
4-7503-00 **Mash apparatus** for 16 determinations
4-7506-00 **Lid** for the mash beakers
4-7510-00 **Software** with dongle and cable
Further mashing devices on request.
Different beaker sizes and modifications are possible.

4-9000-00 **PERTEN FALLING NUMBER 1500 TESTER**
to determine the alpha amylase activity in grains and flour. 230 V, 50/60 cps.

8-9100-00 **Dr. Eckert Potato Starch Balance**, with floor rack.
Single - basket system for determination of starch content as well as dirt percentage of potatoes.
weighing range: 5,750 kg

5 Apparatus and instruments for hop analysis

5-1000-00 **Universal centrifuge 320 for laboratory** up to 15000 rpm,
in case of 100 ml up to 4500 rpm,
delay time 1...99 min,
digital display, uncooled

5-1000-01 **Rotor** for centrifuge 320, fourfold, free swinging

5-1000-03 **Beaker** for the centrifuge 320, 100 ml

5-1000-04 **Protective rubber layer** for beaker

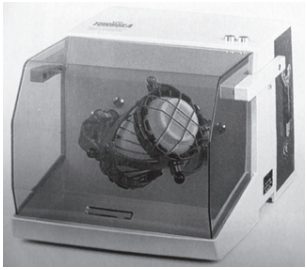
5-1000-05 **Centrifuge glasses**
100 ml, 44 x 100 mm

5-1000-06 **Centrifuge glasses**
50 ml, with screw plug

5-1000-07 **Reducing item**
for 50 ml-centrifuge glasses

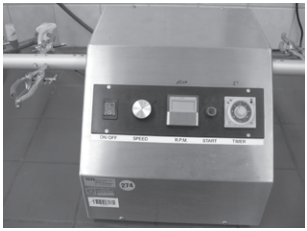
5-1000-08 **Lid** for beaker

5-3000-00 **Turbula-mixer** (staggering move) to be used for identification of bitter substances according to Kolbach-Schilfahrt

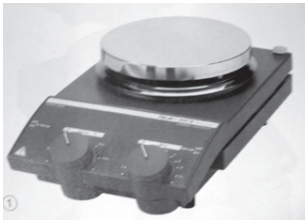


5-3500-00 **Shaker for determination of bitterness**
Type FS 1750

5-4000-00 **Horizontal digital shaker HS 501**
Back and forth shaker, max. shaking weight 15 kg, 505 x 585 x 120 mm, 230 volts AC, 50 cps



5-4001-00 **Frame Combination**
for HS 501, to be used for shaking of vessels from 50 to 500 ml, tensions rollers can be mounted on two levels. 480 x 500 x 120 mm



5-5000-00 **Magnetic stirrer REO**
Rotation speed range 0-1500 rpmwithout heating 230 volts AC, 50 cps

5-5001-00 **Magnetic stirrer RCT Basic**
with heating 0-300°C, rotation speed range 0-1100 rpm

5-5010-00 **Small magnetic stirrer** with PTFE jacket, 20 x 7 mm
5-5010-01 **Small magnetic stirrer** with PTFE jacket, 40 x 8 mm
5-5010-02 **Small magnetic stirrer** with PTFE jacket, 50 x 8 mm
5-5010-03 **Small magnetic stirrer** with PTFE jacket, 70 x 9 mm
5-5010-04 **Small magnetic stirrer** with PTFE jacket, 15 x 6 mm
5-5010-05 **Small magnetic stirrer** with PTFE jacket, 30 x 6 mm
5-5010-10 **Magnetic rod remover** with PTFE-jacket, 350 x 8 mm
5-5010-11 **Set of magnetic stirrers**, 10 components

5-6000-00 **Laboratory timer** 99:59 min

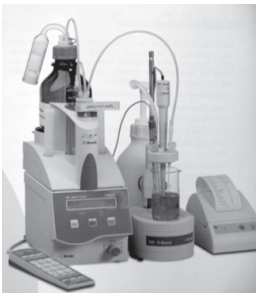
5-6001-00 **Dual timer** with stop-watch and analogue watch

5-7000-00 **Overhead mixer Reax 20/4**
for 2-4 bottles, 1-16 rpm, max. bottle size ∅ 136 mm, height 270 mm

5-7000-01 **Adapter** for 4 x 0,5 l bottles

5-7000-02 **Adapter** for 4 x 1,0 l bottles

5-9002-00 **Conductometric hop analysis Alpha Acid**
for determination of alpha acids, incl.: Titrator Dosino 800, magenetic stirrer 801, change unit 807 with software and all connections pieces.



8-6000-00 **Weighing pan**
made of aluminium, ∅ 85 mm, to determine the water content

6 Equipment and instruments for water analysis

6-2000-00 **Total hardness determination Viscolor H 20 F** 0.5. – 20°dH

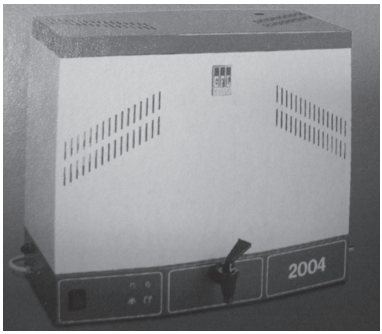
6-2000-01 **Residual hardness determination Viscolor H 2** 0.05 – 2°dH

6-2000-02 **Total hardness determination**
0...20°dH with sliding comparator and plastic sampler

6-2000-03 **Carbonate hardness determination C 20** 0.5 – 20°dH

6-3000-00 **Water distilling device** 2 l/h with 4-litre storage tank

6-3000-01 **Water distilling device** 4 l/h with 8-litre storage tank



5-8500-00 **Photometer DR 2800**
340...900 nm, incl. filter for beer colour (also wort colour)

6-5000-00 **Phenolphthalein solution** 1 %

6-5000-01 **Ammonia solution** 25 %

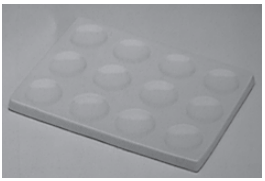
6-5000-02 **Indicator buffer tablets**

6-5000-03 **Methyl orange** 0.1 %

6-5000-04 **Titriplex solution A**

6-5000-05 **Titriplex solution B**

7 Equipment for analysis of mash, wort and beer



7-0200-00 **Porcelain plate for iodine test** with 12 cavities

C-5000-00 **Iodine solution N/50**

7-0500-00 **pH-Meter 3210 / SENTIX 41**
pH -2,00...+19,99 - mV ±1200 –
temp. range: -5,00...+105°C,
incl. case, pH sensor Sentix 41

7-0520-00 **pH-meter SG 2 – ELK-KIT**
transportable device with
InLab electrode 413, battery and data
storage, measuring range –2.00...+16.00

7-0535-00 **Lab pH-Meter Seven Compact pH/ION S220**includes instrument, electrode holder, protective cover and test certificate, measuring range: pH: -2.00...+20, -30...+130°C and ±2000 mV, with InLab Expert Pro-ISM and 2 buffer sachets 4,01- 7,00 – 9,21 and 10,00

7-0510-02 **Electrolyte KCL 250 ml**

7-0516-00 **Cleaning solution Pepsin / HCL 250 ml**

6-5000-08 **Buffer 9,21** – 6 x 250 ml

6-5000-09 **Buffer 4,01** – 6 x 250 ml

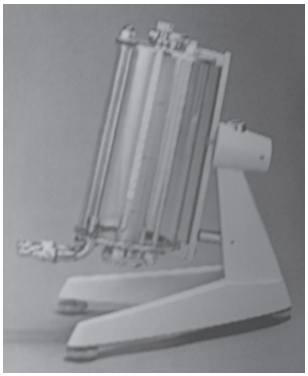
6-5000-10 **Buffer 7,00** – 6 x 250 ml

Colourmetric determination of pH-value

Lyphanpaper

7-0690-00	2,4 - 4,3 : 0,3	7-0690-12	11,5 - 14,0 : 0,3
7-0690-01	3,9 - 5,3 : 0,3	7-0690-13	10,4 - 11,6 : 0,3
7-0690-02	5,2 - 6,6 : 0,3	7-0690-14	1,8 - 3,2 : 0,2
7-0690-03	6,0 - 7,4 : 0,3	7-0690-15	6,6 - 8,0 : 0,2
7-0690-04	3,9 - 5,4 : 0,3	7-0690-16	5,6 - 7,0 : 0,2
7-0690-05	3,9 - 6,0 : 0,3	7-0690-18	7,3 - 8,7 : 0,2
7-0690-06	6,0 - 8,1 : 0,3	7-0690-19	3,9 - 6,0 : 0,3
7-0690-07	6,6 - 8,7 : 0,3	7-0690-20	6,6 - 8,7 : 0,3
7-0690-11	9,0 - 14,0 : 0,3	7-0690-21	11,0 - 13,1 : 0,3

7-1000-00 **Falling ball viscosimeter**
according to Höppler, with balls from 1 to 6, thermometer scale ranging form –1...+26°C, allowing to realize precise measuring of viscositiy of transparent Newton solutions, 0.5...100000 mPas



7-1000-12 **Heating Bath Circulator Steel SC 150-S3**
bath volume: 2 – 5 l, Amb + 13 to 150°C, 2.0 kW heater, pump 17 l/min & 300 mbar, 230 V / 50 cps

7-1151-00 **Microviscosimeter Lovis 2000 M**
easy operation, very short measuring time (30 sec.), range 0,3…10 mPas,

7-1151-01 **Set Accessories for Lovis 2000 M**

7-1200-00 **Distilling device**
with electrical heating complete
with all instruments for determination
of extract and alcohol

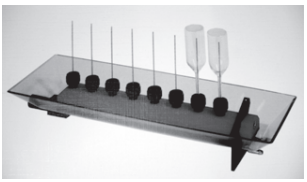
8-3000-07 **Funnel for pycnometer**

8-3000-01 **Pycnometer acc. to Reischauer 50 ml**
can be calibrated, with number

8-3000-02 **Pycnometer acc. to Reischauer 50 ml** officially tested

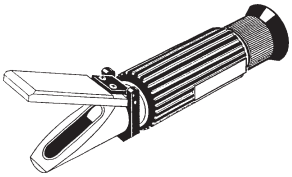
8-3000-03 **Blowing tube for pycnometer**

8-3000-10 **Pycnometerbasket**
of nickel-plated steel wire, for 1
2 pycnometers acc. to
Reischauer, 50 ml.



8-3000-23 **Pycnometer Washing Apparatus**
to be used for 8 pycnometers

7-1400-00 **Manual refractometer A.S.T.**
scale from 0 to 32: 0.2 %mass, for testing soft drinks, fruit juice extracts and unfermented fruit juice.



7-1410-00 **Manual refractometer A.S.T.**
scale from 0 to 32: 0.2 %mass,
30 to 130 °Oe,
with automatic temperature correction

7-1440-02 **Refraktometer RE 50**
digital refractometerrange: 1,32000...1,58000
accuracy: +/- 0,00005
Brix: 0,00...100,00°
temperature range: 15…50°C

7-1480-00 **Digital ATAGO ABBE Refractometer Type 3T**
range: 1,30...1,71 nD
Brix: 0,00...95,00 : 0,05 %
Brixtemperature range: 0…+50°C

7-1520-00 **Density measuring device DMA 35**
battery-operated manual device with digital display and RS 232-interface, with manually operated pump made of glass, sample quantity 2 ml, bending vibration method

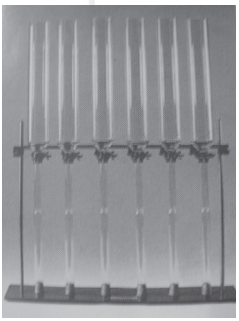
7-1520-10 **Adapter DMA 35**
for connection of PC or printer

7-1520-20 **Printer**
with RS 232C, incl. cable

7-1510-00 **Precision Density Meter Densito 30 PX**
measuring range: 0 to 2,0 g/cm3
accurancy: ± 0,001 g/cm3,
with battery, tanspotable, digital display.

7-1600-00 **Fermentation tube acc. to Lietz**
to determine the final degree of fermentation,
750 ml, total length 695 mm

7-1601-00 **Fermentation tube acc. to Lietz**
250 ml, total length 450 mm



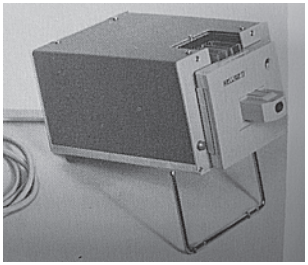
7-1602-00 **Holder for fermentation tube**
for up to 6 fermentation tubes according to Lietz

7-1700-00 **Fermentation seal according to Weinfurtner**
for Erlenmeyer flask of 100 ml and 500 ml

7-1700-01 **Fermentation seal according to Lampe**
for Erlenmeyer flask of 50 ml and 100 ml

7-2000-00 **Hellige Neo-Comparator**f
or colour determination of beer according to EBC agreement, with 4 colour disks (2-27 EBC)4 cuvettes, colour disk holder and prism attachment

7-2000-01 **Daylight lamp**



7-2002-00 **Colour disk chlorine** 0.1...4.0 mg/l for 13-mm cuvette

7-2002-01 **Colour disk chlorine** 0.1...1 mg/l for free chlorine

7-2002-02 **Colour disk alpha-amylase** requires 13-mm cuvette

7-2002-03 **Colour disk iron** 0.03...4.0 mg/l

7-2002-04 **Colour disk chlorine** 0...0.2 mg/l – 40-mm cuvette

7-2002-05 **Colour disk nitrite** 0.2...1.8 mg/l – 13-mm cuvette

7-2002-07 **Colour disk methyl red** pH 4.4...6.0 : 0.2 for 13-mm cuvette

7-2002-08 **Colour disk phenolic red** pH 6.8...8.4 : 0.2 for 13-mm cuvette

Other colour disks or additional parts, p.e. nessler tubes can be offered on request.

7-2530-00 **Packeged Beverage Analyzer PBA-B**
for determination of alcohol, extract, colour, pH-value and CO2. With Carbo QC, PFD-filling system, alcolyzer plus, pH-meter, sample conditioner and density meter DMA 4500.Measuring time: 3-4 minutesSample volume: 120 – 150 ml

7-2552-00 **Alcolyzer Beer Plus – new edition**
fully automatic system for determination of alcohol, extract, density, EBC-colour index, turbidity and pH-value in one measuring cycle. Near infrared spectroscopic measuring principle. DMA 4500, Alcolyzer and Xsample 22 unit. Additional modules on request.

5-8500-00 **Photometer DR 2800**
340 – 900 nm, incl. folder for beer colour (also wort colour)

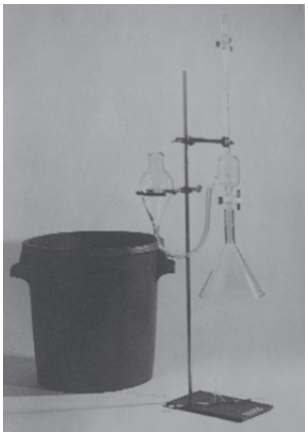
5-8003-00 **UV-VIS Spectrophotometer DR 6000**
190...1100 nm, spectral width 2 nm, prealigned deuterium and halogen lamp,for determination of extinction and transmission, incl. software for determination of colour, FAN, bitterness, polyphenole etc. universal cuvette holder.

7-2761-00 **Cuvette** 45 mm high, 12,5 mm width, with lid, quartz glass, for 200 – 2500 nm

7-2762-00 **Cuvette** 45 mm high, 12,5 mm width, optical glass, for 320 – 2500 nm

6-4000-02 **Cuvette Test LCK 241** for determination of Bitterness
6-4000-03 **Cuvette Test LCK 242** for determination of Diacetyl
6-4000-16 **Cuvette Test LCK 327** for determination of hardness (Ca/Mg)
6-4000-25 **Cuvette Test LCK 306** for determination of Pb
6-4000-26 **Cuvette Test LCK 311** for determination of Chloride

7-2800-00 **Apparatus for air-testing in bottle necks**
according to Kipphan, adapted by Larson and Sörensen, incl. underwater funnel burette with PTFE cocks, connecting tube, level vessel,
plastic jar (50 l) complete with tripod



8-1000-00 **Burette**

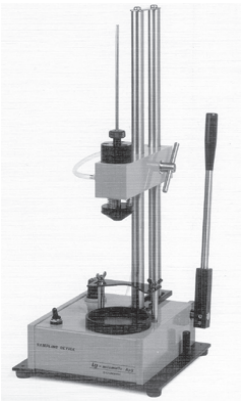
8-1000-01 **Level vessel 500 ml**

8-1000-02 **Funnel ∅ 20 cm** short stem

7-2940-02 **Oxygen analyzer Digox 6.1**
tranportable, RS 232-interface 0...2 mg/l – 0...20 mg/l

7-2940-10 **Piercing device SD-002**
for sampling from bottles and cans, incl. recoil valve

7-2940-20 **Bottle Turner BT-002**
to calibrate the balance of phases



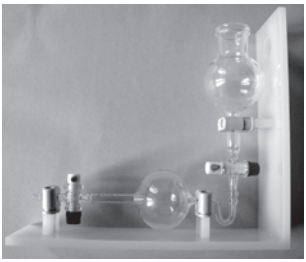
7-2960-00 **Monitoring device for oxygen Intap 4000**
transportable, with automatictemperature compensation
0...99.99 mg/l O_2 (l=litre) 0...60°C

7-4415-10 **Oxygen Measuring Device OXY QC**
for exact determination of dissolved oxygen in beverages, 0...10 ppm,
can be combined with PFD filling system and CarboQC (for CO2)

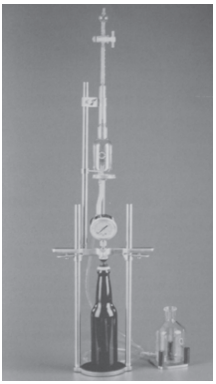
7-4100-00 **Volume Meter SS60**
Flowmeter to determine CO2 in pipelines and tanks

7-4151-00 **Crowing Apparatus**
for bottles types EURO, NRW and Long Neck, volume 0,33 or 0,5 l, with crown cork for max. diameter of bottle: 125 mm.

7-4240-00 **Device for testing the purity of CO_2**
instrument for measuring residual air in carbon dioxide during fermentation in tanks



7-4300-00 **New Style Air Tester model 7000**
capacity: 1 l, for determination
of O2 and CO2.



7-4310-00 **New Style Air Tester**
complete testing device to measure
air content of bottled and canned
beer, max. capacity 1 L

7-4400-00 **CO_2-meter**
analogue used to determine CO_2 content in
beer, complete with slide rule and
manometer 0...2.5 bar, thermometer
scale ranging from –2...+20°C

7-4400-04 **Digital CO_2-meter I-DGM**
portable, for determination of CO_2 content
in beer and soft drinks

7-4403-00 **CO_2- and O_2-measuring cDGM**
transportable, incl. bumper, O_2 0...2000 ppb,
CO_2 2...10 g/l, temp. -5...+40°C,
pressure 0...10 bar

7-4400-11 **INPACK 2000 Sampling Device ISD 2000**

7-4400-01 **Inpack Airmeter**
air meter can be connected by means of a tube to either the Inpack CO_2-meter or the Inpack CO_2-Calculator

7-4400-07 **Inpack 2000 CO_2-meter Digital AL Type ICD**
for determination of CO_2 in bottles and cans, with piercing device, manometer -1...6 bar , incl. slide ruler

7-4400-08 **Inpack 2000 CO_2-Calculator**
complete with manometer, temperature sensor and digital display, including polycarbonate-protection against breakage

7-4400-10 **Gauge Calibration Device**
0...4 : 0,02 bar, for calibration of manometers and digital instruments, accuracy: DIN class 0,6

7-4415-00 **CO2 measuring device CARBO QC**, for beer, soft drinks, mineral water and champagne in cans, bottles, tanks and pipelines, portable, simple to use, high accuracy, range: 0…12 g/l (0…6 vol%) / 30°C (86°F); 0…20 g/l (0…10 vol%) / 15°C (59°F)temperature range -3...+30°C (27…86°F), pressure range 0…10 bar (0…145 psi), sample volume 100 ml, measuring time 90 sec., 100…240 volts AC, 50/60 Hz

7-4415-01 **PFD Filling system**, for cans and bottles

7-4415-02 **Printer IDP 460 RFG**, incl. cable

7-4415-03 **PC cut point cable**

7-4415-04 **Centration unit** diameter 52-67-82

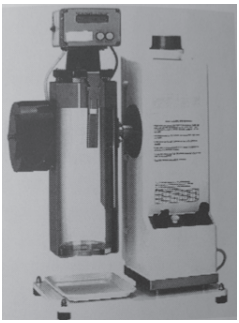
7-4415-05 **Centration unit** diameter 59-74-90

7-4415-06 **Adapter for bottles** diameter 42 mm

7-4425-00 **CO2-Determination acc. to Blom-PU-002**incl. pump

7-4436-00 **Bottle-shaking machine CO_2 TMS**
to determine CO_2 in bottled beer and cans, with computer-operated sensor, the measured values are eveluated individually, + accessories.

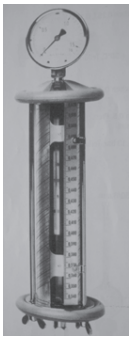
7-4440-00 **CO_2 testing device**
to determine CO_2, including ultrasound washing machine to eliminate carbon dioxide, with digital display and data storage



7-4450-00 **Bottle Tester Clamp Device**
for determination of CO_2 in PET and glass bottles with crown cork, with analogue manometer 0-6 bar, class 1.0

7-4450-01 **Bottle Tester Clamp Device**
for determination of CO_2 in PET bottles and glass bottles with crown cork, with digital manometer 0-8 bar, class 1.0

7-4455-00 **Device for Determination of CO_2-Content**
from tank to filling station, 360 mm long



7-4460-00 **Pressure tester** for bottles sealed with porcelain closures, 0…6 bar

7-4460-01 **Pressure tester** for open bottles ∅ 18 mm, 0…10 bar

7-4460-02 **Pressure Tester for Bottles**
with piercing device for 0,25 l, 0,33 l, 0,5 l and 0,7 l bottles. Manometer dia. 63 mm, measuring range 0...6 : 0,1 bar.

7-4460-03 **Pressure Tester for Cans** with piercing device for 0,2 / 0,33 and 0,5 l cans. Manometer dia. 63 mm, measuring range 0...6 : 0,1 bar.

7-4460-04 **Pressure Tester for PET-Bottles** with thread DN 10 for srewing caps bottles, neck dia. 28/22 mm, measuring range 0...6 : 0,1 bar.

7-4480-00 **Laboratory Carbonisation System**
The system carbonate beverages with exactly defined CO2-contents. Simple menu-driven, fully automatic function, Bottle size up to 330 mm high (other on request), dosing capacity 0…10 g/l Accuracy: +/- 0,1 g/l

7-4480-01 **Holder for PET bottles**
made of stainless steel

7-4480-02 **Holder for cans**, made of stainless steel

7-8600-00 **Apparatus to determine boiling colours according to MEBAK**
heater 6 fold, 450 watts, ∅ 85 mm each, adjustable in three steps, with flask 500 ml, recoiling cooler, including hose and tripod fittings. Other additional parts are listed below.

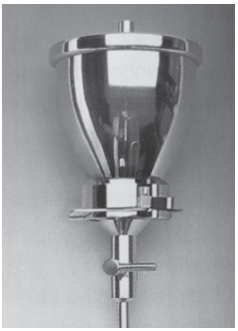
7-8601-00 **Pressure-responsive filtration device MD 050/4**
250 ml, made of stainless steel

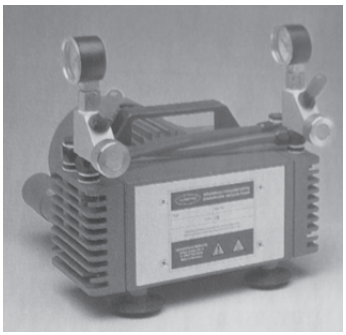
7-8602-00 **Connection for coupling pidece**

7-8604-00 **Nipple MD 050/0/18**

7-8605-00 **Pressure and vacuum pump VP 003**
7-8606-00 **Pressure tube SV 004**

7-8607-00 **Membrane filter ME 24** ∅ 50/0.20 µm / 100 pcs
7-8607-01 **Membrane filter ME 25** ∅ 50/0.45 µm / 100 pcs





7-4510-00 **SF - Foam Tester, f**ully automatic, with PC interface
7-4515-00 **SF - Piercing device**

7-4516-00 **Sampling Device for 12 bottles or cans**

7-4520-00 **Foam testing device according to Clark & Ross**

7-4520-01 **Gas distribution tube**

7-4520-04 **Measuring cylinder 40 ml**

7-4520-05 **Foam cylinder 600 ml**
with PTFE-cock

7-4520-06 **Foam cylinder 600 ml**
with glass-cock

7-4500-00 **Apparatus to determine the stability of foam according to Nibem**

7-4500-09 **Standard glass**

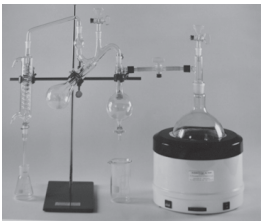
7-4500-12 **Sample Device Type ISD**
for bottles and cans.

7-4500-13 **Flasher Head for NIBEM Foam Tester**

7-4500-13 **Barcode Reader**

7-4200-00 **Bottle Pressure Tester**
for checking new bottles made of glass against their hydrostatic pressure resistance, incl. 5 bottles seals

7-4000-00 **Parnas Wagner „Macro“ unit for diacetyl identification**
complete with glass items and tripod fittings



7-4000-15 **Heating mantle**

7-4800-00 **Vapodest 10 Sn**
Semi automatic water steam distillation device for determination of Diacetyl, 250 ml KTG glass

7-4800-03 **Kjeldahl flask 250 ml**

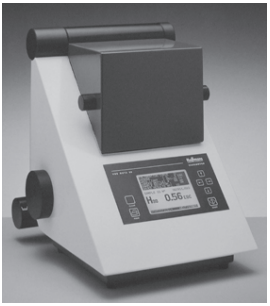
7-1370-00 **Chilling test thermostat F 38-ME**
20 x 0,5 l bottles, incl. control unit, -38...+200°C

7-5101-00 **Chilling-test thermostat RP 3530 C**
computer-operated, suitable for 20 bottles, temperature scale ranging from – 30 to +200°C, with RS 232-interface

7-5200-00 **Laboratory Turbiditymeter LABSCAT 2**
Measuring span 0...200 EBC, dual-angle (25° and 90°) detection for analysis of particle size trends, colour-compensated detection in light and dark beers, bottle rotation and water bath minimize sources of error, 10 linearization curves for various bottle types (white, green andbrown) and secondary glass standard for easy instrument adjustment. max. colour: 50 EBC, 650 nm, bottle dimensions dia. 50...90 and height 330 mm, centronics- and RS 232-connection.
85...26 volts AC, 47...440 cps

7-5400-00 **Tannometer**
a universal photometric turbidity measuring device with temperature regulation used to determine tannoids, chill haze etc., with plotter, RS 232-interface and dosing device

7-5510-00 **Laboratory turbidity photometer VOS Rota 90/25**
90° and 25° diffused light method suitable for measuring in EBC-, ASBC-, Helm-Units and FTU, diffused light system according to MEBAK with 650 nm, with RS 232-interface, data storage and digital display



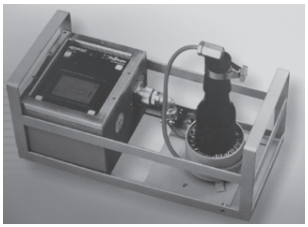
7-5500-01 **Turbidity standard value 2.5 EBC**
7-5500-02 **Turbidity standard value 0.5 EBC**
7-5500-03 **Calibration solution formacine**

7-5700-00 **Hazemeter DT9011**
big digital display, easy to use, for measurement of bottled beverages, 11° and 90°

7-6002-00 **EBI-PASTEUR SET 100 (1-channel)**
temperature datalogger EBI 100-T261, -40...+150°C, bottle logger diameter 6 mm, needle length 135 mm, incl. software

7-6002-00 **EBI-PASTEUR SET 100 (2-channel)**
temperature datalogger EBI 100-T464, -40...+150°C, bottle logger diameter 6 mm, needle length 270 mm, incl. software

7-4700-00 **Redpost PE-monitor RPU 351**
used for measuring temperature in bottles and cans during pasteurisation

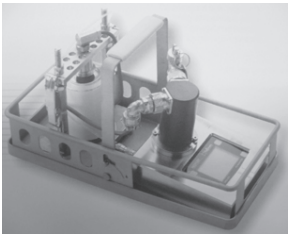


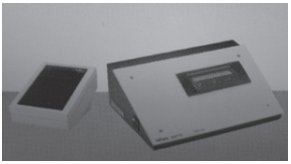
7-4700-11 **INTERFACE/CHARGER RPC 50 for RPC 351/352/353**
can´t be used in combination with a separate printer.

7-4700-10 **2-channel Redpost PE-monitor RPU 352**
like No. 7-4700-00, additional measuring of the temperature of spray water

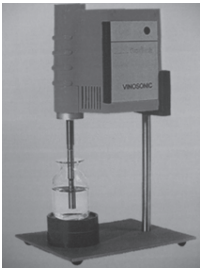
7-4700-20 **3-channel Redpost PE-monitor RPT 353**
complete with: holder, temperature probe L = 150 mm, 1 Spray water temperature probe, 1 x pressure, 2 operating magnets, operating instructions. 0 to 9999,9 PU, -5...100°C

7-4700-01 **Printer/charging unit RPC - 80**
Various temperature probes and bottle holder on request





7-6100-00 **Vinosonic**
ultrasonic device destinated to eliminate carbon dioxyde from beer, sparkling wine and softdrinks by immersing the probe into the samples

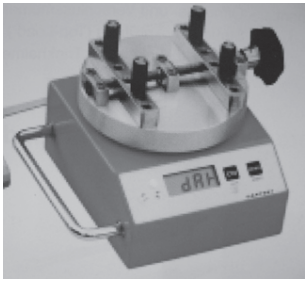


7-7150-00 **Torque Tester Type TMS 2000**
suitable for lab and filling line, easy handling, range 0...50 lbs, 240 volts AC, 50 cps.

7-7000-01 **Universal Holder**
for 28-31 mm screw caps (aluminium).

7-7000-02 **Universal Holder**
for 32-35 mm screw caps (aluminium).

7-7100-00 **Torque Tester Type TMS 5000**
for user-independent, precise torque measuring. Suitable for lab and filling line, easy handling, internal calibration device, graphic display of torque curve, measuring data evaluationby standard PC software MS-Excel. 0-50 in-lbs, accuracy 0,2 % FS, RS 232-interface,240 V AC, 50 cps., IP 65.



7-7200-00 **Torque-Tester CAPTEST**
for user-independent, precise torque measuring. Easy handling, with calibration certificate acc. to ISO 9000, 0-40 in-lbs – 0-5 Nm data logger for 240 measuring values.

7-7300-00 **Torque-Tester Type HPD-4000 H**
0-35 InLbs (right and left), with RS 232 interface, with adapter for caps diameter 30 mm

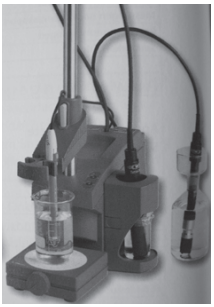
7-7200-01 **Software HPT** with cable

7-7500-20 **Ultrasound washing machine RK 100 H**
with heater 30…80°C
with timer, operation capacity 2 l.

7-7500-01 **Suspended basket**

7-7500-02 **Lid**

7-7500-10 **Ultrasound washing machine RK 100 SH**
with timer, 2 l capacity, without heater



7-8000-00 **Poket Conductivimeter Cond 3110 Set 1**
easy to use, with conductivity cell TetraCon 325, with temperature sensor, range: 0,001...1000 mS/cm

7-8100-00 **Conductivimeter Inolab Cond 740 P SET**
with printer, sensor TetraCon 325,0,00 mS/cm …500 mS/cm.100…240 volts
AC, 50/60 cps.

7-9100-00 **Filtration Check**
to predict fast and easy, filterability, filterrun and clarity.

8-0100-00 **Beer inspection glass**
60 x 100 mm, 0.2 l, made of white glass

8-0100-01 **Beer inspection glass**
60 x 100 mm, 0.2 l, made of brown glass

8-0150-00 **ATL Kostglass similar to DIN 10956,** of clear glass, with lid, graduation at 15, 30, 50 and 100 ml

8-0150-01 **ATL Kostglass similar to DIN 10956,** black glass, with lid

7-9500-01 **Apparatus for determination of ethereal oil in plants and drugs**
complete, without heater

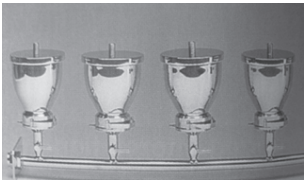
7-9520-00 **Apparatus for determination of volatile acidity acc. to semi-micro,**
incl. chemicals.

Filtration of mash and determination of alcohol

7-9000-00 **Filtration Bag,** of cotton.

3-9200-00 **Alcohol Distilling Rack,** for 1 determination, complete, with NS measuring flasks, acc. to chemical-technical determination

8 Equipment, instruments and devices for biological tests



9-1000-00 **Suction unit made of stainless steel**
3-fold with 500 l-flask attachment

9-1000-01 3-fold with 100 ml-flask attachement

9-1000-02 6-fold with 500-ml-flask attachement

9-1000-03 6-fold with 100 ml-flask attachement

9-1000-04 **Vacuum filtrating unit 500 ml**
47/50 mm, complete with frit and sealing

9-1000-05 **Vacuum filtrating unit 100 ml**

9-1100-00 **Vacuum pump** 20 l/min, 100 mb

9-1100-01 **Bottle acc. to Woulff**

9-2000-00 **Nutrient pads VLB-S-7**
to detect pediococcus and lactobacillus

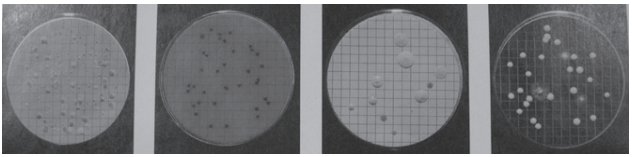
9-2000-01 **Nutrient pads Tergitol TCC**
to detect coliform germs

9-2000-02 **Nutrient pads Wort**
to detect yeast and mould fongus

9-2000-03 **Nutrient pads Standard TCC**

9-2000-04 **Nutrient pads Endo SM**
to detect coliform germes

9-2000-05 **Nutrient pads Acid**
to detect enteric bacteria



9-2100-00 **Dosing injector for nutrient pads**

9-2100-01 **Injector attachment to moisten nutrient pads**

9-2100-02 **Forcep for cover glass and nutrient pads**

9-3400-00 **Table Autoclave D-65**
fully automated micro processor control system,
volume: 65 l
chamber: 500 x 500 mm (dia x depth)
dim.: 750 x 630 x 770 mm (ext.)

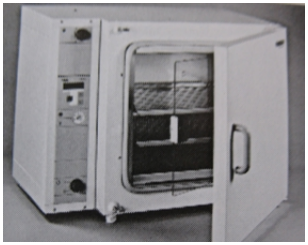
9-3400-01 **Stainless steel wire basket**
dia x H: 490 x 310 mm.

9-3410-00 **Autoclave D-150**
fully automated micro processor control system,
volume: 150 l
chamber: 400 x 750 mm (dia x depth)
dim.: 850 x 730 x 1050 mm (ext.)

9-3220-01 **Stainless steel wire basket**
dia x H: 365 x 325 mm.

9-3420-00 **Autoclave VX75**
fully automated micro processor control system,
volume: 75 l
chamber : 400 x 700 mm (dia/depth)

9-3420-01 **Stainless steel wire basket**
dia x H: 385 x 290 mm.



9-3500-20 **Incubator Basic 32 L**
Temperature range until +220°C, inner dim. 400 x 250 x 320 mm

9-3511-00 **Microbiological Incubator IMH100**
Range: +5...105°C, vol. 104 l

9-3520-00 **Cooling incubator BK 6160**
166 l, 0-50 °C, with night and day simulation

Stability test bottles

	50 ml	100 ml	200 ml	500 ml
without closure	9-4000-00	9-4000-01	9-4000-03	9-4000-04
closure made of stainless steel with silicone rings	9-4001-00	9-4001-01	9-4001-03	9-4001-04
closure made of stainless steel with rubber rings	9-4002-00	9-4002-01	9-4002-03	9-4002-04
closure made of galvanized iron wire with silicone rings	9-4005-00	9-4005-01	9-4005-03	9-4005-04
closure made of galvanized iron wire with rubber rings	9-4006-00	9-4006-01	9-4006-03	9-4006-04

9-4004-06 **Closure with porcelain top**
made of galvanized iron wire

9-4004-05 **Closure porcelain top**
made of stainless steel

9-4001-01 **Rubber rings**

9-4003-00 **Silicone rings**

Laboratory bottles according to DIN, GL 45 with crown and ring

9-4100-00 **100 ml**

9-4100-01 **250 ml**

9-4001-02 **500 ml**

9-4001-03 **1000 ml**

9-4001-04 **2000 ml**

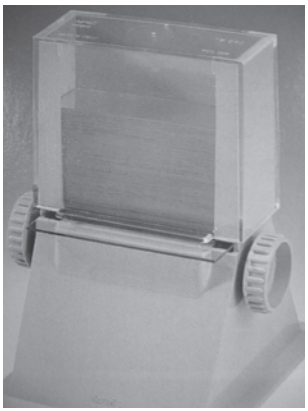
9-5200-00 **Microscope H 600 Achro**
trinocular phototube 100/100,
with 5 x revolver, viewing range 30°,
tube factor 1 x, widefield eyepiece
WF 12,5 x 18, with objective A10/0.25;
A40/0.65; A60/0.85 and combination
condenser NA 1,2, for bright- and
darkfield and phasecontrast

9-5200-01 **Adpater Set for Camera**

9-5200-02 **Digital Camera EOS 550**

9-5000-01 **Slide holder 76 x 26 mm**

9-5000-10 **Dispenser for slide holder**



9-5000-02 **Cover glasses 18 x 18 mm**

9-5000-03 **Cover glasses 20 x 20 mm**

9-5000-20 **Yeast Counting Chamber**
acc. to Thoma
officially calibrated, with clamps

9-5000-30 **Cover glass for counting**
chamber 20 x 26 mm

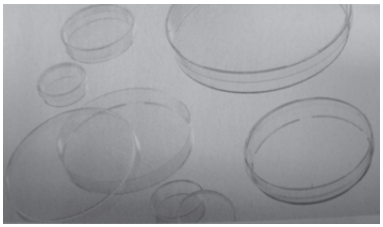
9-6280-00 **Nucleo Counter YC-100**
fast results, easy to use

9-2100-02 **Forcep for covering glasses**
10.5 cm, bend, dull

9-2100-03 **Forcep for slides**

9-6000-00 **Petri-dishes**
made of plastic, with cams and cover, ∅ 60 mm

9-6001-00 **Petri dishes**
made of plastic, with cams and cover, ∅ 94 mm



9-6100-00 **VLB S-7 Agar 9 x 250 ml for lactobacillus and pediococcus**

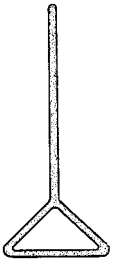
9-6100-01 **Wort Agar 9 x 250 ml for yeast and moulds**

9-6100-02 **NBB Concentrate** (9 x 250 ml)

9-6100-03 **OFS Agar 4 x 250 ml**

9-6100-04 **NBB Agar** (9 x 250 ml)

9-6100-05 **NBB Bouillon** (9 x 250 ml)



9-6100-06 **VLB-S-7 Bouillon 9 x 250 ml**

9-6100-07 **Lysine Agar 4 x 250 ml for non saccharomyces yeasts**

9-6100-08 **Acetate Agar 4 x 250 ml**

9-6100-60 **Crystal violet Agar (4 x 250 ml)**

9-6100-61 **Cupper sulphate Agar (4 x 250 ml)**

9-6100-57 **Standard – I- Agar**

9-0230-00 **Refrigerator**
Cap. 425 l, for secure storage of chemicals and agar

9-6300-00 **Drigalski spatula,** made of glass, 25 mm

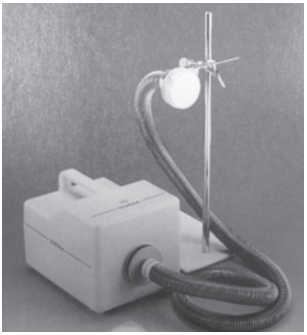
9-7015-00 **Sampling Set for Probes**
250 x 200 ml bottles, 50 x 500 ml bottles, 300 spare silicone rings, 1000 petri dishes (60 x 15 mm, sterile), 500 swabs (sterile) and 100 membrane folder, 0,45 µm, 50 mm

9-6400-00 **Gas cartridge C 206**

9-6401-00 **Blowlamp Soudogaz X 2000**
with handle made of polypropylene

9-6402-00 **Blowlamp Soudogaz X 2000 PZ**
with handle made of polypropylene,
with piezo priming

9-6500-00 **Collecting device AIRSCAN**
to determine germs according the gelatine-membrane-filter method in production and bottling



9-6500-01 **Filter holder for MD 8**

9-6500-02 **Magazine for 10 filter holders**

9-6500-03 **Coupling set for MD 8**

9-6500-04 **Rubber tube for filter holder**

9-6500-06 **Membrane filter** ∅ 80 mm, white,
3 µm, sterile, 50 pcs. per package

9-0600-00 **GasPak 100**
complete anaerobic system for germination
of max. 11 Petri-dishes and/or 13 tubes, approx. 28 cm height, approx. 17 cm ∅

9-0600-01 **CO_2-production in anaerobic system**
package of 10 pcs.

9-0600-02 **One-way anaerobic indicator**
100 pcs., dry

9-0600-03 **Anaerobic test** 50 pcs.

9-6700-00 **Freudenreich flask**
50 ml, with neck and crown NS 19/26

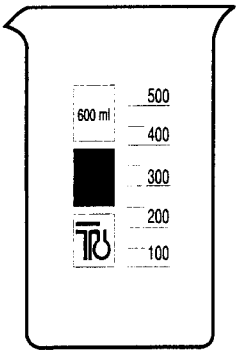
9-6710-00 **Pasteur flask**
1000 ml, with mounted air tube

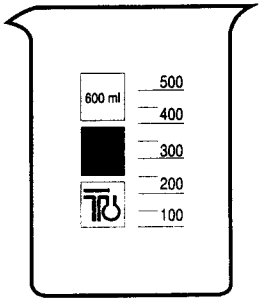
9-6720-00 **Carlsberg flask**
made of stainless steel, complete
with fittings, 10 or 25 l net volume

9 Articles of general use / general laboratory requirements

Beakers made of glass with graduation

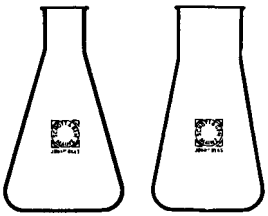
high shape		low shape
25 ml		8-2001-00
50 ml	8-2000-00	8-2001-01
100 ml	8-2000-01	8-2001-02
150 ml	8-2000-02	8-2001-03
250 ml	8-2000-03	8-2001-04
400 ml	8-2000-04	8-2001-05
600 ml	8-2000-05	8-2001-06
800 ml	8-2000-06	8-2001-07
1000 ml	8-2000-07	8-2001-08
2000 ml	8-2000-08	8-2001-09
3000 ml	8-2000-09	8-2001-10
5000 ml		8-2001-11





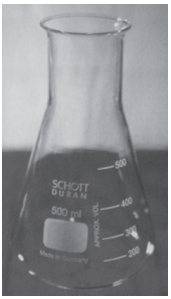
Erlenmeyer flasks with graduation

	narrow neck with beaded rim	wide neck with beaded rim	wide neck with NS
25 ml	8-2100-00	8-2101-00	8-2102-00
50 ml	8-2100-01	8-2101-01	8-2102-01
100 ml	8-2100-02	8-2101-02	8-2102-02
200 ml	8-2100-03	8-2101-03	8-2102-03
250 ml	8-2100-04	8-2101-04	8-2102-04
300 ml	8-2100-05	8-2101-05	8-2102-05
500 ml	8-2100-06	8-2101-06	8-2102-06
1000 ml	8-2100-07	8-2101-07	8-2102-07
2000 ml	8-2100-08	8-2101-08	
3000 ml	8-2100-09		
5000 ml	8-2100-10		



8-2200-00 **Filtration dish 1 D 4**
for determination of anthocyanogen according to MEBAK

8-2300-00 **Durham tube 38.5 x 10 x 8 mm**



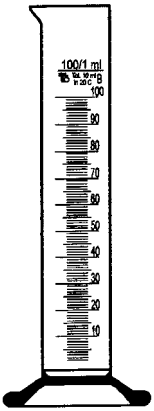
8-2400-00 **Kjeldahl flask 100 ml**

8-2400-01 **Kjeldahl flask 250 ml**

8-2400-02 **Kjeldahl flask 500 ml**

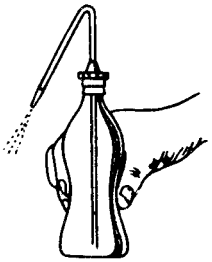
8-2400-03 **Kjeldahl flask 750 ml**

Measuring cylinders



	high shape	low shape
5 ml	8-2500-00	8-2501-00
10 ml	8-2500-01	8-2501-01
25 ml	8-2500-02	8-2501-02
50 ml	8-2500-03	8-2501-03
100 ml	8-2500-04	8-2501-04
200 ml	8-2500-05	8-2501-05
250 ml	8-2500-06	8-2501-06
500 ml	8-2500-07	8-2501-07
1000 ml	8-2500-08	8-2501-08
2000 ml	8-2500-09	8-2501-09

8-2600-00	**Automatic Burette acc. to Schilling 15:0.1 ml**
8-2600-01	**Automatic Burette acc. to Schilling 25:0.1 ml**
8-2600-02	**Automatic Burette acc. to Schilling 50:0.1 ml**
8-2600-03	**Automatic Burette acc. to Schilling 10:0.05 ml**

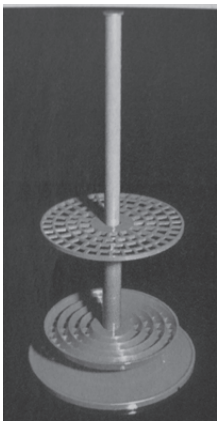


8-2650-00	**Splash bottle 100 ml** made of polypropylene
8-2650-01	**Splash bottle 500 ml**
8-2650-02	**Splash bottle 1000 ml**
8-2650-03	**Splash bottle 250 ml**

Measuring pipettes

8-1101-00	1 : 0.1 ml
8-1101-01	1 : 0.01 ml
8-1101-03	2 : 0.02 ml
8-1101-06	5 : 0.05 ml
8-1101-07	10 : 0.1 ml
8-1101-08	10 : 0.05 ml
8-1101-09	20 : 0.1 ml
8-1101-10	25 : 0.1 ml
8-1101-11	30 : 0.1 ml
8-1101-12	50 : 0.2 ml

8-1500-00 **Pipette rack**
Round, suitable for 94 pipettes



Volumetric pipettes

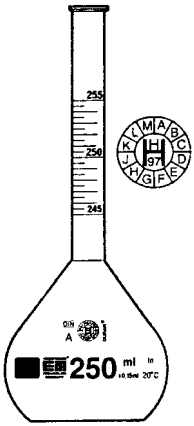
8-1100-00	1 ml
8-1100-01	5 ml
8-1100-02	2 ml
8-1100-03	3 ml
8-1100-04	4 ml
8-1100-05	6 ml
8-1100-06	10 ml
8-1100-07	12 ml
8-1100-08	15 ml
8-1100-09	20 ml
8-1100-10	25 ml
8-1100-11	30 ml
8-1100-12	40 ml
8-1100-13	50 ml
8-1100-14	100 ml
8-1100-16	9 ml

8-1600-00 **EM-dispensing unit 2...10 : 0.25 ml**
conformity certified

8-1600-01 **EM-dispensing unit 10...60 : 1.0 ml**
conformity certified

Measuring flasks, N.T. 20°C, as per prefab-pakage agreement, with conformity mark"H" (officially calibrated)

8-4990-00	20 ml,	18...	22 : 0,5 ml
8-4990-01	30 ml,	28...	32 : 0,5 ml
8-4990-02	40 ml,	38...	42 : 0,5 ml
8-4990-03	50 ml,	47...	53 : 0,5 ml
8-4990-04	100 ml,	97...	103 : 0,5 ml
8-4990-05	200 ml,	195...	205 : 0,5 ml
8-4990-06	250 ml,	245...	255 : 0,5 ml
8-4990-07	300 ml,	295...	305 : 0,5 ml
8-4990-09	330 ml,	323...	337 : 0,5 ml
8-4990-10	333 ml,	328...	338 : 0,5 ml
8-4990-11	350 ml,	343...	357 : 0,5 ml
8-4990-12	375 ml,	370...	380 : 0,5 ml
8-4990-13	500 ml,	490...	510 : 1,0 ml
8-4990-14	700 ml,	690...	710 : 1,0 ml
8-4990-15	750 ml,	740...	760 : 1,0 ml
8-4990-16	1000 ml,	990...	1010 : 1,0 ml
8-4990-17	1500 ml,	1490...	1510 : 1,0 ml
8-4990-18	2000 ml,	1980...	2020 : 1,0 ml
8-4990-19	3000 ml,	2970...	3030 : 5,0 ml
8-4990-20	5000 ml,	4950...	5050 : 5,0 ml



Measuring flasks for distilling apparatus, N.T. 20°C height: 125 mm, with surrounding lip or NS

8-5000-00	25 ml, without calibration
8-5000-01	50 ml, without calibration
8-5000-02	100 ml, without calibration
8-5000-03	200 ml, without calibration

8-5001-00	100 ml, off. calibrated
8-5001-01	200 ml, off. calibrated

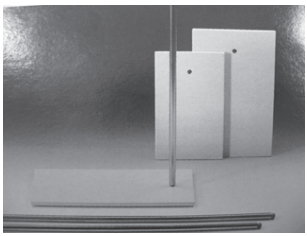
8-5002-01 **Measuring Flask for Distilling Apparatus**
200 ml, height 125 mm, not calibrated, with opening for thermometer NS 10/19 at side

8-5002-02 **Thermometer NS 10/19 for Measuring Flask**
-3...+42 : 0,5°C, 145 mm long

Tripod fittings

Plates		**Rods**	
8-9000-22	175 x 100 mm	8-9000-03	600 x 10 mm
8-9000-23	250 x 160 mm		
8-9000-20	300 x 150 mm	8-9000-04	750 x 12 mm
8-9000-02	315 x 200 mm	8-9000-39	1000 x 12 mm
8-9000-24	250 x 160 mm	8-9000-40	250 x 12 mm
8-9000-21	210 x 130 mm	8-9000-41	1000 x 15 mm

8-9000-00	**Clamp For Glassware NS 29/32**
8-9000-01	**Clamp For Glassware NS 14/23**
8-9000-05	**Double sleeve, rigid**
8-9000-06	**Cooler Clamp without sleeve, 40 mm spread**
8-9000-13	**Double sleeve, rotatable**
8-9000-11	**Double clamp for 2 burettes with sleeve**
8-9000-10	**Burette clamp 25 mm for 1 burettes with sleeve**
8-9000-12	**Burette clamp 25 mm without sleeve**



8-8200-00 **Filter sheets 751 MN 58 x 58 cm**

Folded filters

8-8300-00	**597 ½ 125 mm**	8-8301-00	**595 ½ 125 mm**
8-8300-01	**597 ½ 150 mm**	8-8301-01	**595 ½ 150 mm**
8-8300-02	**597 ½ 185 mm**	8-8301-02	**595 ½ 185 mm**
8-8300-03	**597 ½ 240 mm**	8-8301-03	**595 ½ 240 mm**
8-8300-04	**597 ½ 270 mm**	8-8301-04	**595 ½ 270 mm**
8-8300-05	**597 ½ 320 mm**	8-8301-05	**595 ½ 320 mm**

8-8305-01 **Folded Filters 1288** 320 mm diameter, 1 unit = 100 pcs.

Analytic folded filters (corresponding to Whatman 597)

8-8303-00 ∅ **185 mm**

8-8303-01 ∅ **320 mm**

8-8303-02 ∅ **125 mm**

8-8303-03 ∅ **150 mm**

Flexible tubes for laboratory (indications: interior diameter in mm)

7-4520-09 **Flexible distillation tube ∅ 6 mm**

8-8000-00 **Flexible laboratory tube red ∅ 7 mm, thickness 2.0 mm**

8-8000-01 **Silicone Tubing, inner dia. 8 mm, 2 mm, wall / m**

8-8000-03 **Flexible tube made of PVC ∅ 10 mm, wall 2,0 mm**

8-8000-04 **Flexible tube made of PVC ∅ 24 mm, wall 3,0 mm**

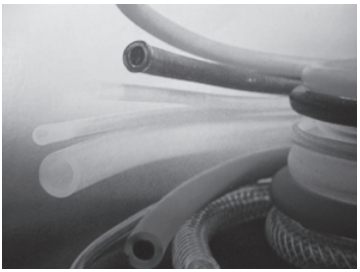
8-8000-05 **Flexible gas tube 8 mm, wall 2,0 mm**

8-8000-06 **Flexible laboratory tube red ∅ 10 mm, wall 2,0 mm**

8-8000-07 **Flexible titrating tube ∅ 4 mm, wall 1,5 mm**

8-8000-10 **Flexible tube made of PVC ∅ 8 mm, wall 1,5 mm**

8-8000-11 **Flexible tube made of silicone ∅ 5 mm, wall 2,0 mm**



4-9200-00 **Desicator,** 250 mm diam. with lid tube, complete with porcelain plate

4-9200-01 **Silica Gel Drying Beads** with moisture indicator, 1000 g

8-1004-00 **Set Imhoff Funnels with stand / holder** Consisting of 2 x Imhoff funnels 1000 ml, SAN and 1 x Imhoff stand / holder for 2 funnels,

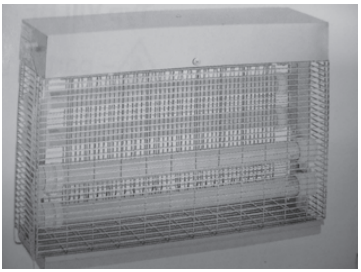
8-8011-03 **Parafilm M roll a 38 meters, 100 mm wide**

8-8011-04 **Parafilm M roll a 75 meters, 50 mm wide**

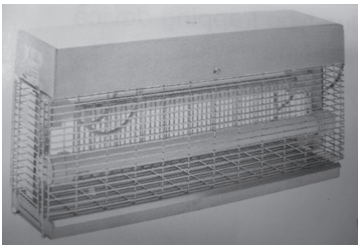
8-8011-01 **Parafilm Cutter**

8-9300-00 **Einhorn saccharometer with measuring glass, 10 ml**

8-9999-00 **Insect killer, model II BF**
4 x 20-watt tubes, protected against splash water



8-9999-01 **Insect killer, model III BF**
2 x 20-watt tubes, protected against splash water



Alphabetical Index

General Terms and Conditions of Business

1. General
Our offers, deliveries, and services are exclusively based on the following terms of delivery and payment. By placing an order, the client fully accepts the validity of our General Terms and Conditions of Business.

2. Conclusion of Contracts
VLB Berlin shall be bound to offers made by it for a term of sixty (60) days as from the date of the offer. If a customer places an order with VLB Berlin within this term, a contract is brought about which is based on the conditions of the offer.
When an order is placed with VLB Berlin without a prior offer by the latter, a contract shall be brought about only if the order is confirmed in writing by VLB Berlin, or if the order is carried out by VLB Berlin, within a period of two (2) weeks counted as from the date of the order's receipt.
Oral agreements shall be effective only if confirmed in written form. Information that is orally provided shall not be binding.
VLB reserves the right to place test orders with sub-contractors in case of need. The names of these sub-contractors will be provided upon customer's request.

3. Terms of Delivery
Orders which are placed with VLB Berlin will principally be processed in the order they are received; urgent orders will be given priority. If delivery dates agreed upon with VLB Berlin or delivery dates communicated by VLB Berlin or terms for the rendering of a service are not observed, the Ordering Party shall grant VLB Berlin an additional period of time of one (1) week for laboratory analyses, and an additional period of time of two (2) weeks for other contractual performances. Only upon the expiration of this additional period of time the customer may withdraw from the contract or claim damages.
Claims for damages put forward by the customer shall be limited to damage which is based on either intentional or grossly negligent breach of contract by VLB Berlin or by its vicarious agents.
In cases of operational breakdowns, force majeure, or other impediments for which VLB Berlin is not responsible, VLB Berlin shall be entitled to either wholly or partially withdraw from the contract. Claims for damages put forward by the Ordering Party shall be excluded. Partial performances shall be admissible.

4. Prices
For deliveries and services, the prices stated in the offer of a contract of VLB Berlin or – should such an offer of a contract of VLB Berlin not be available – the prices listed in the price list of VLB Berlin which is valid at the time an order is placed will be charged to account.
Travelling expenses connected with the execution of an order will be charged to account at EUR 0.40 per kilometer. Other costs and expenses, connected with the execution of an order, will be charged to account on the basis of evidence to be presented.

5. Payment
Invoices submitted by VLB Berlin fall due for net payment within fourteen (14) days as from the date of the invoice. In cases of default in payment, the Ordering Party undertakes to pay ten per cent (10 %) interest per annum on payments in arrears.

6. Reservation of Title
Until full payment of the purchase price and all claims incurred until delivery under the existing business relationship, VLB Berlin retains title to the goods delivered by it.

7. Guarantee
Highest quality standards apply to all goods delivered and services rendered by VLB Berlin. All orders for services and consulting will be performed in accordance with the general rules of VLB Berlin's quality policy.
If the results of laboratory analyses are objected to, this shall be communicated by the Ordering Party promptly to VLB Berlin, but by the latest within one (1) week after these results are submitted to the Ordering Party.
VLB Berlin shall be entitled to again examine the available sample within the framework of the rectification of defects. If this attempt to rectify defects fails, the Ordering Party may either claim a reduction of the payment or withdraw from the contract in its discretion.
If the goods delivered by VLB Berlin are defect, the customer shall be entitled, in the discretion of
VLB Berlin, to the right of the rectification of defects or a substitute delivery. If both, the rectification of defects or the substitute delivery fail, the customer may claim a reduction of the payment or withdraw from the contract in his discretion.
VLB Berlin shall be liable for damage the customer suffers on whichever legal grounds only if the damage is based on an intentional or grossly negligent violation of the contract by VLB Berlin or its vicarious agents provided these claims for damages against VLB Berlin are put forward because of the absence of warranted characteristics. Also in the case of absent warranted characteristics, VLB Berlin shall not be liable for consequential harms caused by defects if the warranty was not to especially protect against the occured consequential harms caused by defects.

8. Data Protection
In the sense of the Federal Data Protection Act, VLB Berlin shall be entitled to process, store, and evaluate data of the Ordering Party obtained in connection with the business relationship. VLB Berlin shall be entitled to use the order results for scientific evaluations and publications. However, VLB Berlin undertakes to neutralise the results and abstain from any and all indications to the Ordering Party and its concerns. In cases of publications with the Ordering Party's name, approval shall be obtained from the Ordering Party.

9. Applicable Law
The business relationship between VLB Berlin and its customers shall be governed by the law of the Federal Republic of Germany.

10. Place of Jurisdiction and Place of Performance
Exclusively Berlin shall be the place of jurisdiction. Place of performance for all deliveries and payments shall be Berlin.

11. Supplementary Clause
If one of the conditions of the contract entered into between VLB Berlin and the Ordering Party or one of the conditions of these General Terms and Conditions of Business be or become ineffective, this shall not affect the validity of the remaining contract regulations or the General Terms and Conditions of Business.

Our delivery program is customised on the demands of the brewing, malting, beverage and distilling industries. We otter:

- ❑ Thermometer
- ❑ Saccharometer/Alcoholometer
- ❑ Auxiliary tools for areometry
- ❑ Apparatus and instruments to analyse raw materials
- ❑ Equipment for the identification of hop compounds
- ❑ Water analysis
- ❑ Apparatus to analyse mash, wort and beer, raw and fine spirit
- ❑ Articles of general use
- ❑ Microbiology equipment
- ❑ Distilling apparatus
- ❑ Sensoric glasses

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