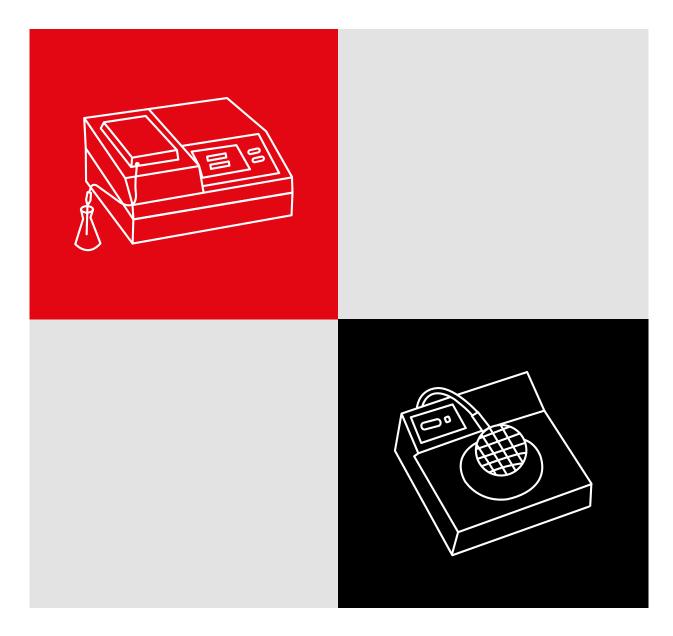


PRODUCT BROCHURE







EQUIPMENT





LACTOSTAR MILK ANALYSER (ACCESSORIES INCLUDED)

For the routine analysis of milk:

	From %	to %
Fat	0.00	40.00
Protein	0.00	10.00
Lactose	0.00	10.00
SNF	0.00	15.00

The density and freezing point are calculated.

Dimensions (WxDxH): (440x440x200) mm Weight: 15.5 kg



3530 LACTOFLASH MILK ANALYSER (ACCESSORIES INCLUDED)

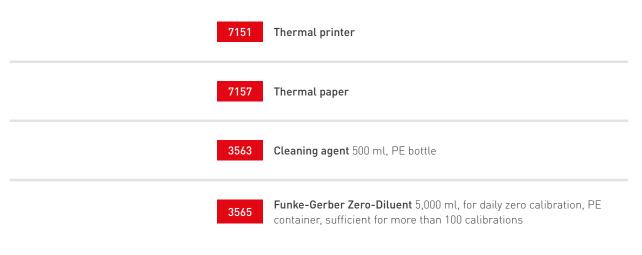
Analyser for the rapid and accurate determination of:

	From %	to %
Fat	0.00	30.00
SNF	0.00	15.00

The density, protein, lactose and freezing point are calculated.

Dimensions (WxDxH): (300x330x240) mm **Weight:** 5.0 kg

ACCESSORIES FOR LACTOSTAR AND LACTOFLASH





SPARE PARTS 3510 - 023 Hose pump complete 3510 - 023A pump-head REFERENCE MATERIALS The exact values depend on the batch. These are included in the delivery.





3670 NOVA SAFETY CENTRIFUGE

Bench centrifuge with angular rotor for butyrometric fat determination according to Dr. N. Gerber, as well as for the determination of the solubility of milk powder with special solubility index tubes (art. no.: 3637)

Properties:

- Automatic interlocking lid
- Automatic brake (braking time < 8s)
- Centrifugation timer (digital)
- Heater: temperature adjustable in 1°C steps from room temperature up to 65 °C (can be switched off)
- Capacity: max. 8 butyrometers or max. 8 special solubility index tubes

Technical specifications:

RCF: 350 g ± 50 g rpm: 1350 Effective radius: 160 mm Weight: 13 kg Dimensions (WxDxH): (470x380x230) mm



SAFETY CENTRIFUGE FOR FAT CONTENT DETERMINATION ACCORDING TO ROESE-GOTTLIEB





SUPERVARIO-N 3680 MULTI-PURPOSE CENTRIFUGE

Centrifuge for fat content determination according to Gerber, Roese-Gottlieb, Babcock and for the determination of the solubility of milk powder (ADPI).

Properties:

- Stainless steel housing
- Programmable rotor speed from 600 rpm to 1130 rpm in increments of 10 rpm • (corresponding to a g value of 77 to 372 g, depending on the rotor)
- Programmable heater up to 68 °C in 1 °C increments •
- Programmable centrifugation time from 1 to 99 minutes •
- Automatic interlocking safety lid
- Automatic shut-down in case of unbalance
- Automatic brake

Technical specifications:

Connection values: 230 V/50...60 Hz/1200 VA Weight when empty: 26 kg Total height with lid: 460 mm External diameter: 670 mm Filling height: 370 mm Speed range: 600 to 1130 rpm Temperature range: room temperature up to 68 °C

ACCESSORIES

- · For the determination of fat content according to Gerber
 - Head A: for a maximum of 36 butyrometer buckets, effective radius of 3685 the attachment: 260 mm
 - 3631

Butyrometer bucket

- For the determination of fat content according to Babcock
 - Head A: for a maximum of 18 Babcock buckets, effective radius of 3685 the attachment: 260 mm
 - 3632 Babcock bucket

3254, 3256, 3258 Babcock bottle without stopper

For the determination of fat content according to Roese-Gottlieb

Head B: for a maximum of 8 Mojonnier tubes, effective radius of the attachment: 190 mm (operation only possible in accordance with the respective safety regulations)



3686



• For solubility determination



Head C: for a maximum of 6 buckets for solubility index tubes, effective radius of the attachment: 190 mm

Bucket for solubility index tubes

Solubility index tube (ADPI tube)



3707 UNIVERSAL WATER BATH WB436-D (DIGITAL)

Digital temperature display (actual value), digital setpoint temperature adjustment. PT 100 sensor (platinum sensor). Stopwatch (1-100 min. with acoustic signal). Stainless steel inner and outer casing. Protection against overheating (even when tank is empty), use with distilled water if possible.

Technical specifications:

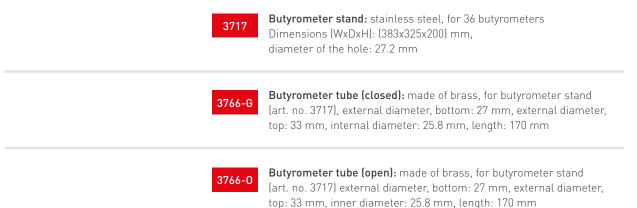
Temperature range: up to 100 °C Volume: 18 l Connected loads: 230V/50Hz...60Hz/1000 W Interior dimensions (WxDxH): (300x320x194) mm External dimensions (WxDxH): (331x396x265) mm Weight: 10 kg



UNIVERSAL WATER BATH WB436-A (ANALOGUE)

As art. no. 3707 but with analogue temperature control (adjusting knob), temperature display with thermometer (included in the scope of delivery), thermostatic heat controller.

ACCESSORIES FOR WATER BATHS WB436





3727 Universal shelf: made of stainless steel, dimensions (WxDxH): (280x225x2) mm, diameter of the hole: 16.9 mm
3747 Lid: made of stainless steel, dimensions (WxDxH): (350x320x4) mm
3718 Mojonnier stand: made of stainless for 10 Mojonnier tubes
4440 PH METER PH4440 With the pH4440 it is possible to measure the pH value, conductivity and redox potential. During the measurement and calibration, the colour display shows all of the important information (measured value, temperature, temperature sensor, condition of the electrodes etc.). The intuitive menu navigation with the tried and tested 5-key operation makes operation of the device simple. Electrodes available as an option. Dimensions (WxDxH): [210x150x80] mm Weight: 1.1 kg
4453 pH single rod measuring chain: EGA 141/Pt1000 with integrated temperature sensor.
4458 pH gel electrode: EGA 142/Pt1000 with integrated temperature sensor.
4465 Conductivity electrode: 1/cm with Pt1000
4466 Conductivity electrode: 0.1/cm with Pt1000
Buffer solutions: 250 ml each, PE bottle 4460 pH 4.01 4461 pH 7.00 4462 pH 9.21
4400 KCl solution: 3M, 250 ml, PE bottle





TITRATION APPARATUS STANDARD

(for milk, 0-25° SH)



TITRATION APPARATUS STANDARD

(for cream, 0-40° SH)

For the determination of acid content. Complete with storage bottle, rubber stopper, burette with automatic zero adjustment, soda lime tower with ascending tube, pressure rubber ball, burette tip with pinch-cock, one 1 ml and one 25 ml pipette, 200 ml Erlenmeyer flask



TITRATION APPARATUS SIMPLEX

(for milk, 0-25° SH)



TITRATION APPARATUS SIMPLEX (for cream, 0-40° SH)

For the determination of acid content. Complete with polyethylene bottle on a plastic base, burette with automatic zero adjustment, fine titration at the push of a button, one 1 ml and one 25 ml pipette, Erlenmeyer flask 200 ml



4800 SEDILAB SEDIMENT TESTER

Made of stainless steel, for 500 ml of milk



For serial testing of liquids for particle contamination, in particular for the purity testing of milk. Splash-proof design.

For 500 ml of milk, approx. 800 samples per hour, sharply defined sediment images, 220 V/50 Hz





Filter papers: with writing surface for sediment tester, 1000 pieces (80x45) mm, filter diameter: 28 mm









Automatic cryoscope, single sample device

Properties:

- Reference method in accordance with DIN/ISO/IDF 5764
- Large touchscreen
- New cooling system
- Easy to use, fast, accurate and robust

-0,5565	100	110	120	130	140	150	160
-0,5570							22
-0,5575				-	-	_	0,40m
-0,5580							
-0,5585			\wedge				
-0,5590		/					
-0,5595		\square					

The freezing curve is displayed during the measurement on the graphical colour display. This is ideal for observing, protocolling and providing proof of the plateau search stipulated by the technical standard (DIN/ISO/IDF 5764).

7160 CRYOSTAR AUTOMATIC (MULTI-SAMPLE DEVICE)

With this device it is possible to measure 12 samples fully automatically at the press of a button.

Properties:

• Reference method in accordance with ISO/IDF/DIN 5764

Weight: 15.2 kg

Dimensions (WxDxH): (430x435x185) mm, with measurement head: 240 mm (H)

ACCESSORIES FOR CRYOSCOPY

7151 Thermal printer: Dimensions (WxDxH): (170x170x65) mm

7157	Thermal paper
7152	Thermistor, long version: for CryoStar automatic and CryoStar I up to serial number 7150-03000
7172	Thermistor, short version: for CryoStar I from serial number 150000
7165	Calibration standard "A"-0.000 °C: 250 ml in PE bottle
7166	Calibration standard "B"-0.557 °C: 250 ml in PE bottle



7186	Calibration standard "A"-0.408 °C: 250 ml in PE bottle
7187	Calibration standard "B"-0.600 °C: 250 ml in PE bottle
7188	Confirmation standard "C"-0.512 °C: 250 ml in PE bottle
7167	Sample tube: with marking at 2.0 ml, 50 pieces, internal diameter: 13.7 mm, external diameter: 15.8 mm
7167-A	Sample container: made of anodised aluminium for faster and more accurate freezing point determination
7168	Sample stand: made of PPH, for 27 sample tubes (art. no. 7167), dimensions (WxDxH): (224x70x40) mm
7169	Cooling bath liquid: 500 ml in PE bottle, for refilling
7174	Sampling pipette: adjustable from 1.0 ml to 5.0 ml
7175	Pipette tips: for art. no. 7174, pack of 200



7630 SOLUBILITY INDEX MIXER

The device allows the determination of the solubility index of powdery substances or the mixing of liquids. There are two basic modes available for this:

- Measurement of the solubility index of dried milk according to ISO 8156
- Mode with freely adjustable speed (1000-4000 rpm) and mixing time (5s-99s) for mixing substances and determining the solubility index of substances other than dried milk

ACCESSORIES



Glass mixing bowl

7621



Reference table: ADPI "Scorched Particle Standards of Dry Milks" 4 levels



7700 JOLTING VOLUMETER

The device makes it possible to determine the tamped volume or density of powdery and granular products. The product enables compliance with the following standards:

- ISO 8967 (milk powder)
- IDF 134 (milk powder)
- USP <616> method I (pharmaceutical powder)
- ISO 8460 (instant coffee) and others

7661

Replacement measuring cylinder for art. no. 7700



8500 COLONYSTAR BACTERIA COUNTER

For the manual counting of colonies, with pressure-sensitive light field 145 mm in diameter, with direct and indirect energy-saving LED illumination, with adjustable brightness and colour, with digital display and acoustic counter feedback, height-adjustable housing, black and white Wolffhügel disc with 1 cm2 and 1/9 cm2 graduation. Magnifying lens with flexible arm (Ø 90 mm), 2 x magnification. Petri dishes with a diameter of up to 145 mm can be used; the reducing insert supplied can be used for Petri dishes with a smaller diameter.

Dimensions (WxDxH): (275x300x80) mm Weight: 2.0 kg



5670 HUMIDITY MEASURING DEVICE MLB 50-3C

Weighing range max.: 50 g, reading precision 0.001 g, humidity: (0-100)%, temperature range: (50-160) °C in increments of 1 °C

Dimensions (WxDxH): (210x335x156) mm Weight: 6 kg

ACCESSORIES FOR HUMIDITY MEASURING DEVICE MLB 50-3C

Aluminium specimen dishes:



95 mm in diameter, 80 pieces



100 mm in diameter, 100 pieces



Circular glass fibre filter: for splashing or caking specimens







With pipette calibration programme, weighing range max.: 220 g, reading precision 0.1 mg, housing with wind protection and three sliding doors. Automatic internal adjustment every 3 hours or upon a temperature change of > 0.8 °C. GLP/ISO logging possible, percentage determination. Calibration certificate optional.

Dimensions (WxDxH): (206x335x335) mm **Weight:** 5.4 kg



5820 PRECISION SCALE PCB2500-2

Weighing range max.: 2500 g, reading precision 0.01 g, percentage determination, formulation memory. GLP/ISO logging possible. Calibration certificate optional.

Dimensions (WxDxH): (163x245x79) mm Weight: 1.4 kg



8761 BINOCULAR MICROSCOPE MBL2000

With 45° slanted viewer. Stable metal casing with coaxial fine and coarse focus. Built-in cross table, with integrated 6V/20W illumination. Double lens Abbé condenser N.A. 1.25 with iris diaphragm, pivotable filter holder, height adjustment, glass filters: blue, yellow, green, 10-fold planar eye pieces

Technical specifications:

Objectives: 4x/NA 0.10; 10x/NA 0.25; 40x0.65, 100x/NA 1.25 oil **Weight:** 1.6 kg

 8400
 Slide: for microscope, half white, cut edges, 50 pieces, dimensions

 8401
 Cover glass for microscope: dimensions (WxDxH): [18x18x0.2] mm

 8430
 Staining cuvette: dimensions (WxDxH): [105x90x80] mm

 6049
 Steriliser SN55: 53 l, with natural convection for temperature regulation 5 °C above room temperature up to +250 °C, dimensions (WxDxH): [585x514x784] mm, weight: 57 kg

6014	Incubator IN55: 53 l, with natural convection for temperature regulation 5 °C above room temperature up to +80 °C, dimensions (WxDxH): (585x514x784) mm, weight: 57 kg
6002	Universal cabinet UN55: 53 l, with natural convection for temperature regulation 5 °C above room temperature up to +300 °C, dimensions (WxDxH): (585x514x784) mm, weight: 57 kg
	(further models, also with forced air circulation, are available on request)
5140	Methylene blue tablets: for bacteria count estimation, 50 pieces
5150	Resazurine tablets: 100 pieces for LOVIBOND comparator 2000+ (art. no. 5160)
5160	LOVIBOND comparator 2000+: for resazurine test, housing for 2 test tubes for colour comparisons, with milk observation stand, without colour disc (see art. no. 5161)
5161	Colour disc: for resazurine 4/9 with 7 standard reference colours
5162	Test tube: set consisting of 4 pieces, dimensions: external diameter 15 mm, length: 110 mm
Delvotest	- microbiological inhibitor test
6570	Individual test SP-NT: contents up to 100 samples
6571	Plate test SP-NT: for 96 tests each
Determina	ation of alkaline phosphatase
7820	Lactognost: Original pack with reference table for 100 samples
7822	Testing strips Phosphatesmo MI: pack of 50 strips
7825	Peroxtesmo MI: high temperature heating detection/UHT test determination of peroxidase (pack of 100 strips)

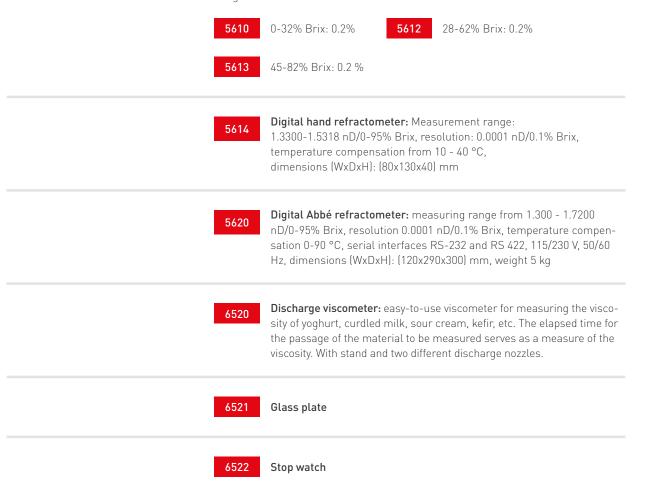


Mastitis detection

7920 California Mastitis Test (Schalm test): for quick determination of increased cell content in milk from which a possible mastitis infection can be diagnosed.
 2 test trays with 4 dishes, 1 spray bottle 250 ml
 7930 California Mastitis Test (CMT), (test liquid): 1 l
 7931 California Mastitis Test (CMT), (test liquid): 5 l

Pocket refractometer

For measuring the degree of evaporation in milk and determining the concentration in various fields of application. With the internationally defined Brix scale it is possible to determine the weight percentage of the dry matter directly. Length: 185 mm each.





LABORATORY GLASSWARE



Butyrometers

All butyrometers come in standard packs of 10. Please place your order in units of 10.



Precision butyrometer 0-4%: 0.05: for drinking milk and vat milk, frosted rear scale wall, fault tolerance: 0.025%, (accessory: 3280)



Skimmed milk butyrometer (according to Sichler's method)



0-6-12%: 0.1 (accessories: 3290, 3300, 3320)



0-15%: 0.2 (accessories: 3290, 3300, 3320)





BUTYROMETER ACCESSORIES



For all measuring method butyrometers, FIBU without adjustment key.

FURKE GERBER	
	3270 ADJUSTMENT KEY For FIBU patent closure.
	Rubber stopper, conical: for all measuring method butyrometers, diameter 11 mm/16mm, L: 43 mm
	Rubber stopper: for all weighing method butyrometers for sealing the bulb, diameter 9 mm/13 mm, L: 20 mm
	Rubber stopper with hole: for all weighing method butyrometers, diameter 17 mm/22 mm, L: 30 mm
	Rubber stopper without hole: for powdered milk butyrometers, also suitable for extraction tube according to Mojonnier (art. no. 3870 3871), diameter 17 mm/22 mm, L: 30 mm
	3320 Cream beaker without holes: for ice cream and condensed milk butyrometers and cream butyrometers according to Roeder, external Ø: 15 mm, L: 77 mm
	3321 Cheese beaker with holes: for butyrometers according to Van Gulik's method: external Ø: 15 mm, L: 77 mm
	3323 Butter beaker with 2 holes: external Ø: 15 mm, L: 77 mm
	Butyrometer stand (also suitable for special solubility index tubes, art. no. 3637)
	3330 for 36 samples (PP plastic), dimensions (WxDxH): (610x80x160) mm
	3331 for 12 samples (PP plastic), dimensions (WxDxH): (225x80x160) mm
	Protective shaking hood
	3340 for 36 samples (PP plastic), suitable for art. no. 3330, dimensions

for 12 samples (PP plastic), suitable for art. no. 3331, dimensions (WxDxH): (230x85x90) mm 3341

(WxDxH): (660x95x165) mm

Volumetric pipettes (with one ring mark)



For aggressive acids and alkalis, without bottles.

9484	1-10 ml: 0.05 ml, with thread adapter: A25, A28, A32, A38, A40
9485	2.5-25 ml: 0.1 ml, with thread adapter: A32, A38, A40

Variable proportioning devices

For aggressive acids and alkalis, without bottles.

9487 1-10 ml: 0.2 ml, with thread adapter: A25, A28, A32, A38, A40
9488 2.5-25 ml: 0.5 ml, with thread adapter: A32, A38, A40

Babcock bottle (without stopper)



Extraction tube (according to Mojonnier)

3870	With rounded bulb, accessories: cork stopper (art. no. 3872), or rubber stopper (art. no. 3310)
3871	With flattened bulb, accessories: cork stopper (art. no. 3872), or rubber stopper (art. no. 3310)



3875	Wooden stand: for 12 extraction tubes according to Mojonnier
3634	ADPI solubility index tube: 50 ml, graduated from 0-20 ml and mark at 50 ml (see SuperVario-N (3680)), external Ø: 30 mm, L: 138 mm
3637	Special solubility index tubes: for determining the solubility of milk powder, fitting into the butyrometer tubes (art. no. 3641) for use in the "Nova Safety" bench centrifuge (art. no. 3670)
	Suitable rubber stoppers, see art. no. 3050 Matching stand, see art. no. 3331 external Ø: 24 mm, H: 180 mm
Lactodens	simeter
6600	For milk according to GERBER's method, large model: negative scale, with thermometer in stem, 1.020-1.040: 0.0005 g/ml, T= 20 °C, 10-40 °C, approx. (300 x 28) mm, normal design/standard model
6610	For milk according to GERBER's method, small model: with thermo- meter in the body, 1.020-1.035: 0.0005 g/ml, T= 20 °C, 0-40 °C, approx. (210 x 17) mm, normal design / standard model
6630	For milk according to Quevenne's method, coloured triple scale: 1.015-1.040: 0.001g/ml, T= 20 °C with thermometer 0-40 °C, approx. (290 x 22) mm
6630-15	For milk according to Quevenne's method, coloured triple scale: 1.015-1.040: 0.001g/ml, T= 15 °C with thermometer 0-40 °C,

approx. (290 x 22) mm

approx. (210 x 22) mm

approx. (210 x 22) mm

Hydrometer

6631

6631-15

6620	For milk: according to former DIN 10290, without thermometer, 1.020-1.045: 0.0005 g/ml, T= 20 °C, approx. (350 x 25) mm, standard version
6640	for butter milk serum: DIN 10293, without thermometer, 1.014-1.030: 0.0002 g/ml, T= 20 °C, standard model, approx. (240 x 21) mm
6660	For condensed milk (reading at the top): 1.000-1.240: 0.002 g/ml, T= 20 °C, approx. (310x19) mm
6661	For condensed milk (reading at the top): 1.040-1.080: 0.001 g/ml, T= 20 °C, approx. (230x21) mm

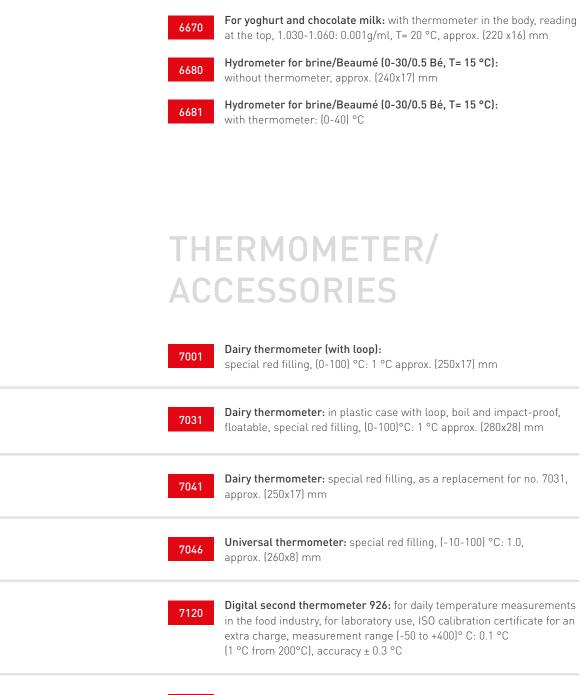
For milk according to Quevenne's method, coloured triple scale:

For milk according to Quevenne's method, coloured triple scale:

1.015-1.040: 0.001g/ml, T= 20 °C without thermometer,

1.015-1.040: 0.001g/ml, T= 15 °C without thermometer,





Insertion/precision sensor: for 7120, diameter 4 mm, L: 110 mm



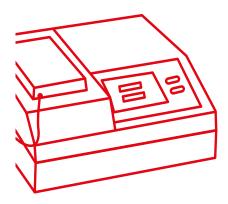
OTHER LABORATORY ARTICLES

Diagnostic dipsticks (detection of: pH, calcium, carbonate hardness, chlorine, chloride, iron, total hardness, magnesium, manganese, nitrate, phosphate, residual hardness, sulphate, peroxide),

Laboratory glassware (beaker, Erlenmeyer flasks, measuring cylinder, laboratory bottles, volumetric flask, funnel, beakers, test tubes, burettes, Soxhlet apparatus),

Pipettes (measuring pipettes, volumetric pipettes), samplers, cheese triers, butter triers, magnetic stirrers, stands, Bunsen burners, Petri dishes, sample bottles, brushes, proportioning devices etc.,

can be found in our complete list at **www.funke-gerber.de**



FUNKE-GERBER -PARTNERS IN DAIRY FARMING SINCE 1904

COMPANY PROFILE

Year of foundation: 1904 Managing Director: Dipl.-Ing. Konrad Schäfer

PRODUCTS

The company develops, manufactures and markets the following laboratory equipment and accessories worldwide:

- All equipment and accessories for the "Gerber method of determining fat" centrifuges, water baths, reading lamps, butyrometers
- "CryoStar" freezing point determination devices
- "LactoStar" and "LactoFlash" milk analysis devices
- pH meters
- General laboratory requirements

ACTIVITIES

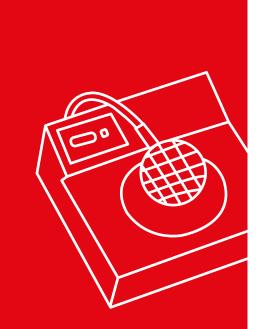
Turnkey installation or the design of complete laboratories in the following special fields:

- Milk processing industry
- Dairies, milk collection centres
- Cheese dairies, butter works, ice cream, condensed milk and powdered milk factories

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