

MILK ANALYZER

BOECO MILK ANALYZER LAC-SP, LAC-SPA

The function of the BOECO Ultrasonic Milk Analyzer is to make quick analyses of milk samples directly after milking, at collecting and during processing.

The BOECO Milk analyzer makes quick analyses of milk and liquid dairy products as: Cow milk, UHT milk, Sheep milk, Goat milk, Buffalo milk, Whey, Cream (up to 45%), Recovered milk.

Each unit will be delivered with 3 calibrations (standard are sheep, cow and UHT milk)

The model LAC-SP has one peristaltic pump for the sample aspiration. The model LAC-SPA has two pumps. the second one for automatic cleaning

The key features are:

- ▶ User-friendly: simple in operation, maintenance, calibration and installation
- ▶ Portable and compact design
- ▶ Very small quantity of milk required (25 ml per one measurement)
- ▶ Low power consumption
- ▶ No use of hazardous chemicals
- ▶ Measuring accuracy adjustment can be done by the user RS 232 interface
- ▶ ESC POS Printer Support
- ▶ Two samples self-calibration
- ▶ Dimensions 175x175x150 mm (WxDxH)
- ▶ Weight: < 1,5 kg
- ▶ Power: Input 100-240V ~1,6 A max, 50/60 Hz, Output +12V 4.17 A min

The following Parameters can be measured from the Ultrasonic system: Fat, Solid-non-fat (SNF), Density, Protein, Lactose, Milk sample temperature, Added water, Salts, Freezing point.

The following Parameters can be measured from integrated systems: pH (together with an electrode), Conductivity, Inhibitors

| Parameter | Measuring range | Accuracy |
|----------------------|---|-------------------------|
| Fat | from 0,01% to 25% (option 45%) | ± 0.1% |
| SNF (Solids-non-fat) | from 3% to 15% | ± 0.15% |
| Density | from 1015 to 1140 kg/m ³ (option 1160 kg/m ³) | ± 0.3 kg/m ³ |
| Protein | from 2% to 7% | ± 0,15% |
| Lactose | from 0.01% to 6% | ± 0.15 |
| Added Water content | from 0% to 70% | ± 3.0% |
| Temperature of milk | from 1°C to 40°C | ± 1°C |
| Freezing point | from -0,4 to -0,7°C | ± 0.001°C |
| Salts | from 0,4 to 1,5% | ± 0.05% |
| pH | from 0 to 12 | ± 0,05% |
| Total solids | from 0 to 50 % | ± 0,17% |
| Option | | |
| Conductivity | from 3 to 14 (mS/cm) | ± 0,05% |

BOECO LAC-SP
BOECO LAC-SPA



BACKPANEL

| Code | Description |
|-------------------------------|--|
| BOE 5290800 | BOECO LAC-SP-60 Milk Analyzer, Standard Plastic Model, 60 sec. measuring time, with pH measuring system, USB/RS 232 dataport |
| BOE 5290860 | BOECO LAC-SPA-60 Milk Analyzer, Standard Plastic Automat with 2 peristaltic pump inside (1 for the sample, 1 for the cleaning) 60 sec. measuring time, with pH measuring system, USB/RS 232 dataport |
| BOE 5291860 | BOECO LAC-SPA-60 Milk Analyzer, Standard Automat Model 60 sec. measuring time, with pH measuring system and integrated Conductivity measurement, real time clock, USB/RS 232 dataport |
| Option: BOE 5451160 | High-fat (45%) / Density 1160 kg/m ³ measuring function |

BOECO MILK ANALYZER LAC-S, LAC-SA

The function of the BOECO Ultrasonic Milk Analyzer is to make quick analyses of milk samples directly after milking, at collecting and during processing.

The BOECO Milk analyzer makes quick analyses of milk and liquid dairy products as: Cow milk, UHT milk, Sheep milk, Goat milk, Buffalo milk, Camel milk, Whey, Cream (up to 45%), Skimmed milk (0,01% FAT, Ice-cream mixtures, Concentrated milk (up to 1160 kg/m³), Yogurt, Flavoured milk, Recovered milk.

Each unit will be delivered with 3 calibrations (standard are sheep, cow and UHT milk)

The standard model LAC-S has one peristaltic pump for the sample, the LAC-SA models have two pumps, the second one for automatic cleaning.

- ▶ Direct measurement of cold milk samples, starting at 5°C
- ▶ No need of periodical calibration
- ▶ The measurement accuracy is not dependant on milk's acidity
- ▶ High-end ultrasonic technology for analyzing any kind of milk
- ▶ Dimensions 100x223x216 mm (WxLxH)
- ▶ Weight: < 3 kg
- ▶ Power: Input 100-240V ~1,6 A max, 50/60 Hz, Output +12V 4.17 A min

The following Parameters can be measured from the Ultrasonic system: Fat, Solid-non-fat (SNF), Density, Protein, Lactose, Milk sample temperature, Added water, Salts, Freezing point

The following Parameters can be measured from integrated systems: pH (together with a electrode), Conductivity, Inhibitors

| Parameter | Measuring range | Accuracy |
|----------------------|---|-------------------------|
| Fat | from 0,01% to 25% (option 45 %) | ± 0.1% |
| SNF (Solids-non-fat) | from 3% to 15% | ± 0.15% |
| Density | from 1015 to 1140 kg/m ³ (option 1160 kg/m ³) | ± 0.3 kg/m ³ |
| Protein | from 2% to 7% | ± 0,15% |
| Lactose | from 0.01% to 6% | ± 0.15 |
| Added Water content | from 0% to 70% | ± 3.0% |
| Temperature of milk | from 1°C to 40°C | ± 1°C |
| Freezing point | from -0,4 to -0,7°C | ± 0.001°C |
| Salts | from 0,4 to 1,5% | ± 0.05% |
| pH | from 0 to 12 | ± 0,05% |
| Total solids | from 0 to 50 % | ± 0,17% |
| Option | | |
| Conductivity | from 3 to 14 (mS/cm) | ± 0,05% |

| Code | Description |
|-------------|---|
| BOE 5290090 | BOECO LAC-S-60 Milk analyzer, Standard Model, 60 sec. measuring time, with pH measuring system, USB/RS 232 data port, USB flash drive |
| BOE 5290950 | BOECO LAC-SA-50 Milk analyzer, Standard Automat (2 pumps) , 50 sec. measuring time, with pH measuring system, USB/RS 232 data port, USB flash drive |
| BOE 5291950 | BOECO LAC-SA-50 Milk analyzer, Standard Automat (2 pumps) , 50 sec. measuring time, with pH measuring system and integrated Conductivity measurement, real time clock, USB/RS 232 data port, USB flash drive |

Option:
BOE 5451160 High-fat (45%) / Density 1160 kg/m³ measuring function

Accessories

| Code | Description |
|-------------|---|
| BOE 5290020 | Thermal Printer |
| BOE 5095626 | Basic pH combination electrode BA 17, liquid electrolyte, 0...14 pH, 0...100°C, with BNC plug, 1m cable. With leak proof refill opening, platinum diaphragm |

USB FLASH DRIVE

BOECO LAC SA 50



Results
F=83.82 S=87.93
D=28.55 P=82.98
L=84.35 U=84.23

Measurement results



BOECO LAC-SA with 2 peristaltic pumps inside, 1 for cleaning, 1 for sample

input for alkaline detergent for automatic cleaning on every hour

The optional built-in conductivity sensor gives high performance freezing point analysis - avoid poor quality milk due to added water, detects mastitis and falsification with added salt

