

EKOMILK®

Spectra

Hybrid Mid-Infrared Ultrasonic
Milk Analyzer



Most affordable milk analyzer
with MIR adulteration detection capabilities
**Fast, Highly Sensitive Detection
of Adulterant Concentrations**



WIPO | PCT

International patent publications:
WO/2018/148809
WO/2020/093113
WO/2020/118386

Key feature:

- Fast adulterant detection & Fat, SNF, etc. corrections
- Cost effective
- Simple and lightweight design
- Automatic cleaning of the IR module
- No acids or other chemicals used
- Data collection system
- 4.3" color TFT Display with resistive touch screen
- RS232/USB/GPRS/Bluetooth/ Wi-Fi/Ethernet interfaces
- USB flash drive, keyboard & mouse support
- Multi-language menu translations
- Remote calibration procedure
- Remote firmware update
- pH Measurement module (optional)
- Conductivity measurement (optional)
- Measurement data print-out (optional)
- Data Processing & Payment System (optional)
- Custom calibration - goat, sheep, camel, llama, etc.
- No moving parts

Application Area:

- Dairy farms
- Milk collecting points
- Dairy industry
- Veterinary and dairy laboratories

**What is the Real
Quality of Your Milk?**





Hybrid Mid-Infrared
Ultrasonic Milk Analyzer



Environmental Conditions:

Ambient air temperature	15° ÷ 35°C
Milk temperature	5° ÷ 35°C
Relative humidity	30% ÷ 80%

Electrical Parameters:

AC Power Supply voltage	INPUT: 100 - 240VAC +10/-15% 50/60 Hz %
Power Consumption	< 50 W

Mechanical Parameters:

Dimensions (W x D x H)	380 x 310 x 285 mm
Weight	Weight < 4.5 kg

Measuring Parameters:

Average time per 1 measurement	45 sec.
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Specific Adulteration Detection (Mid-infrared)*	Limits of Detection %
Ammonium Sulfate	0.10 ± 0.05 (abs.)
Urea	0.15 ± 0.05 (abs.)
Melamine	0.15 ± 0.05 (abs.)
Nitrates (ammonium, potassium, sodium,...)	0.05 ± 0.03 (abs.)
Carbonates/Bicarbonate (ammonium, potassium,...)	0.08 ± 0.05 (abs.)
Added Water	20 ± 5 (abs.)
Synthetic milk (veg. oil, urea, detergent, water)	20 ± 5 (abs.)
Sweeteners (sucrose, maltodextrin)	0.9 ± 0.5 (abs.)

Adulteration Detection (non-specific adulterants)

In case the milk has been contaminated with substantial volume of unknown adulterant the instrument could detect it

*Adulterants detection limit: in the range of milk fat 1.5% to 12%

Conductivity and pH parameters:

pH	0,00 ÷ 14 ± 0,02 (abs.)
Conductivity	2 ÷ 20 mS/cm ± 1 % (abs.)

Milk Parameters:

Fat	0.5% ÷ 12% ± 0.1% (abs.)
Solids non Fat (SNF)	6% ÷ 12% ± 0.2% (abs.)
Milk Density	1.0200 ÷ 1.0400 g/cm³ ± 0.0005 g/cm³ (abs.)
Protein	2% ÷ 6% ± 0.2% (abs.)
Freezing Point	0 ÷ -1.000°C ± 0.01°C (abs.)
Added Water to Milk	0% ÷ 60% ± 5% (abs.)
Lactose	0.5% ÷ 7% ± 0.2% (abs.)

Note: EKOMILK SPECTRA is factory calibrated for cow, buffalo, mixed milk. Customized calibration for goat, sheep, camel, llama milk is available under customer's request.

*All the specifications are preliminary and can be changed without prior notice.

MANUFACTURER:

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