

MilkGuard Extra

Benefits for the farmers

- Recording and monitoring of raw milk storage
- Warning of (technical) malfunctions during milk storage
- Recording and monitoring of the tank cleaning
- Warning of (technical) malfunctions during tank cleaning
- Monitoring and recording of cleaning temperature and detergent concentration of milking equipment is possible
- User alarms can be set to warn before critical limits are reached
- By improved operating handling, supporting reduction in total bacteria count, thus contributing to increased milk classification and payment. (fast cooling and sufficient warm cleaning)
- Logged information of the past two weeks is available at all times at internal memory.
- Previous information is stored in blocks of two weeks at (optional) memory card (storage period up to 2 years).
- Alarm data remains also on internal memory (double logging of alarms)
- Able to exchange data externally by Bluetooth
- Longer safeguarded storage period (up to 3 days) reduces cleaning cost and logistic cost
- Under normal conditions and after initial installation, the MilkGuard requires minimum maintenance
- Low annual hardware depreciation cost (per ton monitored milk)
- Stand-alone unit (maximum safety), can be connected to any existing closed cooling tank with automatic cleaning device



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Benefits for the dairy processor

- The MGE is an important tool for monitoring, recording and safeguarding the raw milk storage in relation to tracking and tracing as well as HACCP protocols
- Individual farmer alarm data are accessible on site
- Provides option for monitored, safeguarded and traceable increase of storage time (high-quality milk requirement) which can support improved logistic efficiency
- Dairy plant critical limits can be manually entered and set for critical alarm setting
- Load warning signal is shown to the truck driver if set (critical limit) parameters have been exceeded during storage.
- The MGE equipment will support the farmer in the improved management of milk storage conditions, including warning of (technical) malfunctions. The supply of high-quality raw material (milk), makes it possible for the dairy processor to produce high-quality (added-value) final products
- The MGE is a stand-alone unit, can be connected to any existing closed cooling tank, the sensors used are not in direct contact with the raw milk



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MilkGuard Extra

Features MilkGuard Extra

The MilkGuard Extra (MGE) is safeguarding raw milk storage conditions by logging, monitoring and warning of malfunctions during the raw milk storage and tank cleaning process.

Use of the MGE in combination with proper cleaning, milk handling methods, adequate storage and preventive maintenance, will lead to:

- Optimal quality safeguarding of stored raw milk through monitoring
- Awareness of discrepancies in relation to the set parameters (alarms)
- Early identification and warning of equipment malfunction
- Increased awareness of the status of the storage process
- Approved monitoring, recording and safeguarding method of raw milk storage at the farm



With Mueller you are prepared for the future

MilkGuard Extra

Basic features:

- All operational actions and storage conditions are monitored and recorded
- If pre-set parameters are exceeded, this is recorded and additionally indicated by an alarm
- Data logging when milking every 5 minutes (adjustable)
- Data logging when cleaning every 20 sec (adjustable)
- Access real time data
- Only deliverable with EE-PROM (standard English language)
 - With larger purchase volumes, specific languages are possible
- Stainless steel casing (Faraday cage)
- Internal memory (last two weeks) accessible at all times
- Large external memory through SD memory card
 - Storage previous memory data in blocks of 2 weeks
- Temperature and alarm display
- Red / green alarm lights
- Extra output for alarm lamp
- Front key for programming
- Menu password protection of 3 levels-incl. user alarms / user setup
- Testing menu input and output signals
- External sensor (no contact with milk)
- Monitoring milk temperature
- Monitoring agitator running
 - Inadequate or absence of stirring
- Tank empty
- Temperature of cooling tank cleaning water
- "Load warning" alarm (when pre-set parameters have been exceeded)
- Low hardware depreciation cost per ton of milk

Alarms:

- **Alarms - Cooling process**
 - Switch on condensing unit
 - Pre-cooler off (first milking)
 - High blend temperature
 - Milk temperature (too cold / too warm)
- **Alarms - Storage process**
 - Too long agitation (inadequate or absence of agitation)
 - Milk temperature (too high / too low)
- **Alarms - Cleaning process**
 - Temperature of tank cleaning water
 - Conductivity and temperature of milk pipeline cleaning water (optional)
 - Conductivity of the cooling tank cleaning water (optional)
- **General alarms**
 - Power off too long
 - Maximum storage time exceeded
 - Sensor(s) defective
 - Tank not cleaned for xx hours (adjustable)



Logging:

- Start / stop milking
- Start / stop cleaning
- Milk temperature
- Cleaning temperature
- Conductivity of cleaning water
- Tank empty
- Tank cleaning times
- Maximum cleaning temperature of tank
- All alarms (linked to parameter setting)
- If menu changes took place
- Power on / off

Communication:

- Serial communication (RS232)

Options extra cost:

- Start / stop milking (each milking)**
 - DMD* and temperature of milking equipment cleaning liquid**
 - DMD* cleaning water cooling tank
 - DHI timer (timer recording milking intervals)
 - Tank does not fill (first milking)**
 - Bluetooth communication
 - Electrical interference alarm MilkGuard
- * DMD = detergent monitoring device (conductivity)
** = Vacuum sensor needed

Future options:

- None: for additional options the MilkGuard Advanced model is required

