

## STIMULATING LOCAL RAW MILK PRODUCTION ACTIVITIES

Emerging dairy countries are in the process of stimulating local raw milk production activities. Mueller is part of this process by developing milk cooling solutions, such as the solar cooler. Securing the quality of the milk means securing the farmer's income as well.



## RAW MILK COOLING SOLUTION: SOLAR MILK CHURN COOLER



**SOLAR COOLER: COOLING UNIT FOR SMALL SCALE DAIRY FARMERS. ENABLING PRODUCERS TO PRESERVE THE QUALITY OF FRESH DAIRY. THIS LEADS TO JOB GENERATION FOR LOCAL ENTREPRENEURS AND LESS DAIRY WASTE.**



# SOLAR POWERED OR 230 VAC MILK CHURN COOLER:

An off-grid cooling unit, for small scale dairy farmers. Enabling producers to preserve the quality of fresh milk. This means: less dairy waste and new job opportunities for local entrepreneurs.

The cooler consists of three seperate modules:

- 1) Churn Cooler Basic >

Grid for the churns/  
condensing unit
- 2) Churn Cooler Complete >

Container: produced  
locally or purchased  
from Mueller
- 3) Solar Churn Cooler Complete >

220V or solar



## 1. CHURN COOLER BASIC

The basic Mueller churn cooler consists of:

- A pre-mounted frame
- An evaporator plate
- Condensing unit (230 VAC)
- A pump and spray pipe
- Plastic grid to place the churns on
- Small parts for installation

The cooling unit works on 230 VAC when electricity is available. Dimensions of the cooler in millimeters: 3,750 (length) x 800 (width) x 775 (height).

### How it works

With the pump and spray pipe, melting ice water is sprayed on the milk churns. This cools the milk back to under 8°C within 3 hours, under 4°C within 5 hours and keeps the milk at the right temperature. The cooler is filled with water up to 50 mm above the plastic grid.

With the Churn Cooler Basic we supply a complete set of drawings and an installation manual for the container and the solar package.

## 2. CHURN COOLER COMPLETE

The Churn Cooler Extra offers a full isolated container for 8 milk churns of 30 liters each. In the container, the stainless steel churns are placed on a plastic grid.

For the container, there are several options. It can be produced locally, or purchased from Mueller. In the last case Mueller can offer multiple solutions for the container.

MODULE 1 AND 2  
ARE REQUIRED.  
MODULE 2 CAN  
EITHER BE MADE  
LOCALLY OR BY  
MUELLER.



## MILK CHURNS

As an option to every module, we offer 16 stainless steel milk churns of 30 liters each, with a lid. These churns are constructed in a way that prevents vacuum.

## 3. SOLAR CHURN COOLER COMPLETE

This cooling unit consists of the first two modules (the basic Mueller churn cooler and isolated container) and a complete solar package of panels, batteries and a transformer.

The solar part of the cooler is on request, and can be purchased locally as well.

### Features

- Through the use of solar power during daytime, an ice layer of 30 mm is formed on each side of the evaporator plate in the solar cooler.
  - The chiller has a cooling capacity of 9,1 kW. The condensing unit has a cooling capacity of 1,4 kWh at 46°C ambient and -15°C evaporating temperature.
  - In the cooler 8 stainless steel milk churns (30 liters each) are placed on a plastic grid. The churns are filled with milk. 8 spare churns are included.
  - With a pump and a spray pipe, the melting ice water is sprayed on the
- milk cans. This cools the milk back to under 8°C within 3 hours, under 4°C within 5 hours and keeps the milk at the right temperature.
  - Dimensions cooler in millimeters: 3,750 (length) x 800 (width) x 775 (height). The cooler is filled with water up to 50 mm above the plastic grid.
  - The cooler has an insulation of 70 mm.
  - The condensing unit is mounted on the side of the cooler.
  - The cooling unit also works on 220 VAC when electricity is available.

