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1 Product definitions



Fig. 1. DeLaval milk meter MM300

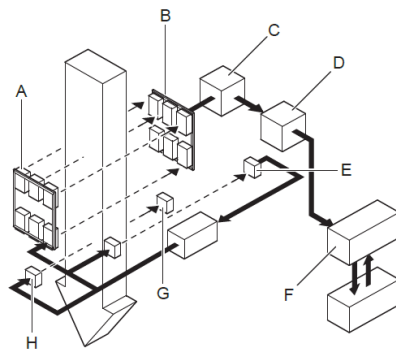
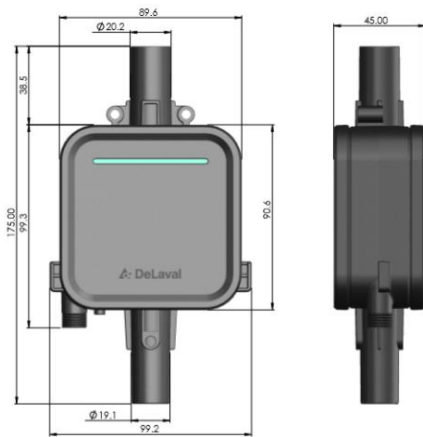


Fig. 2

- A: Transmitters
- B: Receivers
- C: Amplifier
- D: A/D
- E: Reference detector
- F: Milk flow memory
- G: Blood sensor
- H: Transmitter

1.1 Introduction

The DeLaval milk meter MM300 (A) is an electronic milk meter designed to record the milk yield of cows; see Fig. 1.

It has no moving parts. Electrodes for conductivity sensing are positioned in the regulator sensor valve. The cable between the milk meter and the sensor is permanently sealed.

A fat sampler can be connected to the meter, to continuously collect a proportional amount of milk. The sample is included in the measured yield.

The MM300 is certified by ICAR for official milk recording.

1.2 Principle

The MM300 comprises of an electric circuit board and a short transparent pipe, which enables free passage for the milk.

The optical sensors detect slices of milk flowing through the channel. A high speed processor in the milk meter processes 100,000 measurements per second.

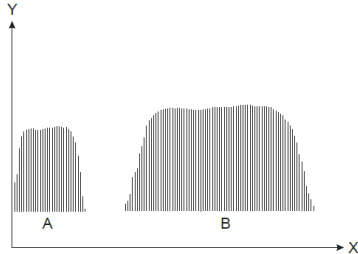


Fig. 3
A: Milk slug
B: Milk slices
X: Time
Y: Mass

These measurements are analyzed in order to separate milk slices. The following data is calculated for each milk slice:

- Length of milk slice
- Speed
- Acceleration
- Air entry
- Density

By analysing and computing the above data, accurate milk flow and yield is achieved.

3 Features

- Measures milk flow
- Measures yield
- Detects blood*
- Measures conductivity*
- Measures Washing temperature*
- Air leakage functions (kick-off*, block, slip)

The functions marked (*) are only applicable when the milk meter is connected DeLaval milking point controllers.

2 Wire Colors

Power Supply (+)	Ground	Input	Output
Brown	White	Purple	Blue

- Power supply – connect to power supply (+)
- Ground – connect to power supply (-)
- Input – is current loop input
- Output – is current loop output

All wires are protected according to CE marking.

3 Technical data:

Voltage supply	12-24 VDC +/-10%
Power consumption	Average 4 W, Maximum 6 W
Working Temperature	-10°C to +45°C (14°F - 113°F)
Storage Temperature	-40°C to +75°C (-40°F - 167°F)

4 Safety precautions

4.1 Milk meter MM300 and MM100

The Milk meter is design to be connect to limited power source with maximum voltage of 30VDC and 0.5 Amp.

4.2 Foreword

It is your responsibility to see that any personinvolved with the use or operation of this equipmentfollows all safety and operational instructions.

Under no circumstances should you allowthis equipment to be used if the equipment isfaulty or the operator does not completely understandthe operation of the equipment.

4.3 Disclaimer

The information, instructions and parts listed areapplicable and current on the date when issued.DeLaval reserves the right to make changes withoutnotice.

4.4 Safety regulations



Caution!
Risk of damage, injury or electric shock!

Never clean the equipment with ahigh-pressure cleaner or any otherjet of water. The equipment is sensitiveand can be destroyed by thehigh pressure.



Prohibited!
Never use solvents or alcohol on anypart of the equipment.
Failure tocomply can destroy or harm theequipment.



Mandatory!
Read the instructions carefullybefore using the equipment.
Contactyour local DeLaval dealer if there areparts of these instructions that youdo not understand.
Compliance withthe instructions ensures a correctand safe use of the equipment.
Savethe instructions for future reference.



This device FCC ID: AMUMM300

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- a) Reorient or relocate the receiving antenna.
- b) Increase the separation between the equipment and receiver.
- c) Connect the equipment into and outlet on a circuit different from that to which the receiver is connected.
- d) Consult the dealer or an experienced radio/TV technician for help.

Warning: Modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment under FCC Rules.

Warning:

SCR has not approved any changes or modifications to this device by the user. Any changes or modifications could void the user's authority to operate the equipment.