
DeLaval
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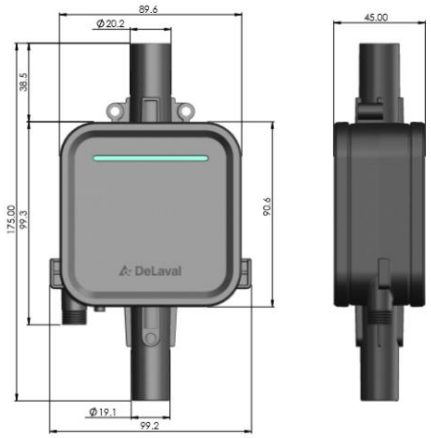
Contents

1 Product definitions

Fig. 1.DeLaval milk meter MM300



1.1 Introduction

The DeLaval milk meter MM300 (A) and MM100are an electronicmilk meter designed to record the milk yieldof cows; see Fig. 1.

It has no moving parts.
Electrodes for conductivity sensing are positionedin the regulator sensor valve.
The cable between the milk meterand the sensor is permanently sealed.

A fat sampler can be connected to the meter, tocontinuously collect a proportional amount ofmilk. The sample is included in the measuredyield.

The MM300 is certified by ICAR for official milk recording.

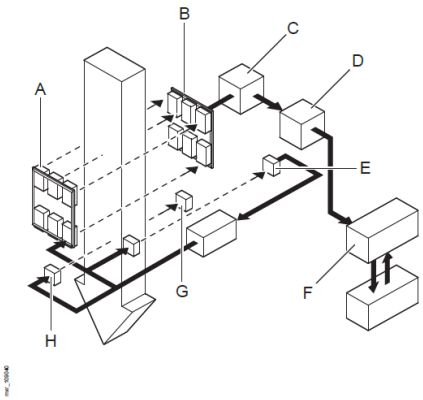


Fig. 2

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

1.2 Principle

The MM300 and MM100 comprises of an electric circuitboard and a short transparent pipe, which enablesfree passage for the milk.
The optical sensors detect slices of milk flowingthrough the channel. A high-speed processor inthe milk meter processes 100,000 measurementsper second.

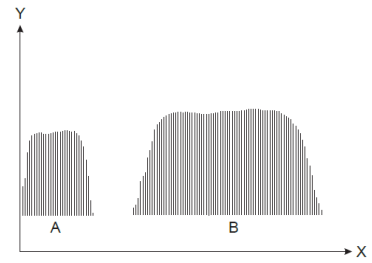


Fig. 3

A: Milk slug
B: Milk slices
X: Time
Y: Mass

These measurements are analyzed in order toseparate milk slices. The following data is calculatedfor 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 person involved with the use or operation of this equipment follows all safety and operational instructions.

Under no circumstances should you allow this equipment to be used if the equipment is faulty or the operator does not completely understand the operation of the equipment.

4.3 Disclaimer

The information, instructions and parts listed are applicable and current on the date when issued. DeLaval reserves the right to make changes without notice.

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.

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 to an outlet on a circuit different from that to which the receiver is connected.

d) Consult the dealer or an experienced radio/TV technician.

CANICES-3 (B) / NMB-3 (B)

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de classe B estconforme à la norme canadienne ICES-003.

IC STATEMENT

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1）This device may not cause interference.

2）This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licencecontenu dans le présentappareilestconforme aux CNR d'Innovation, Sciences et Développementéconomique Canada applicables aux appareils radio exempts de licence. L'exploitationestautorisée aux deux conditions suivantes :

1）L'appareil ne doit pas produire de brouillage;

2）L'appareil doit accepter tout brouillageradioélectriquesubi, mêmesi le brouillageest susceptible d'encompromettre le fonctionnement

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

SCR n'approuveaucune modification apportée à l'appareil par l'utilisateur, quelle qu'ensoit la nature. Tout changementou modification peuventannuler le droit d'utilisation de l'appareil par l'utilisateur.

RF Exposure - This device has been tested for compliance with FCC RF exposure limits in a portable configuration. This device must not be used with any other antenna or transmitter that has not been approved to operate in conjunction with this device.

This device complies with Part 15 of the FCC Rules and Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présentappareilestconforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitationestautorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillageradioélectriquesubi, mêmesi le brouillageest susceptible d'encompromettre le fonctionnement.

Wireless notice

This device complies with FCC/ISED radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines and RSS-102 of the ISED radio frequency (RF) Exposure rules. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Le présentappareilestconforme à l'exposition aux radiations FCC / ISED définies pour un environnement non contrôlé et répond aux directives d'exposition de la fréquence de la FCC radiofréquence (RF) et RSS-102 de la fréquence radio (RF) ISED règlesd'exposition. L'émetteur ne doit pas êtrecolocalisénifonctionnerconjointement avec à autreantenneouautreémetteur.

FCC ID: AMUMM300

ISED: 26436-MM300 HVIN: 05