

Nedap

# SmartFlow

Free milk and air flow.  
Wireless power  
and dataflow.



**EuroTier**  
Innovation  
Award 2018



 **nedap**

# Add intelligence and automation to your milking parlor

The Nedap SmartFlow ensures a continuous and completely free milk and air flow, making vacuum drops and fluctuation caused by milk meters a thing of the past. Thanks to advanced technologies used for power management, data communication and recording, it is the first milk meter that is completely wireless.

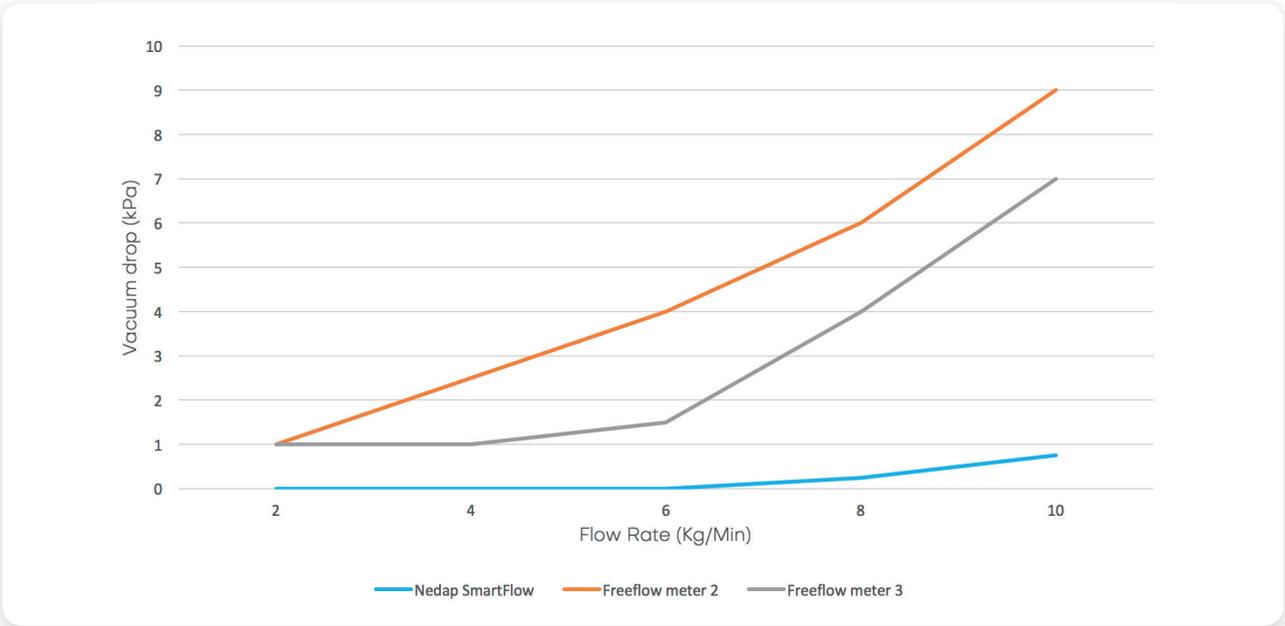
The Nedap SmartFlow records the milk yield and flow rate of individual cows during each milking with the highest accuracy. It empowers dairy farmers with operational and strategic performance insights and controls various automated processes in the milking parlor.



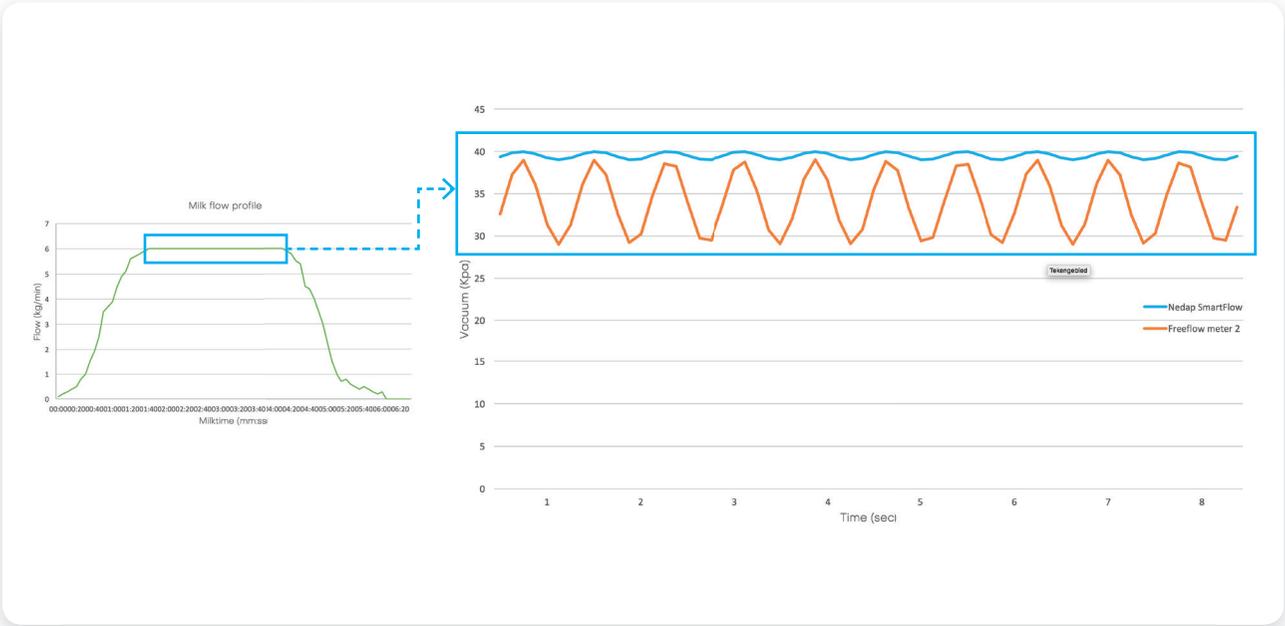
# Continuous and completely free milk and air flow

The mechanical geometry and electronic recording principle of the Nedap SmartFlow are designed for a continuous and optimally free milk and air flow. No flow obstruction or interruption occurs that could cause a vacuum drop, vacuum fluctuation or rough treatment of

the milk. As a result, cows are milked more gently and completely and udder health improves. It also leads to higher milk quality with less free fatty acids.



Vacuum drop in relation to flow rate of the Nedap SmartFlow compared to two conventional freeflow milk meters.



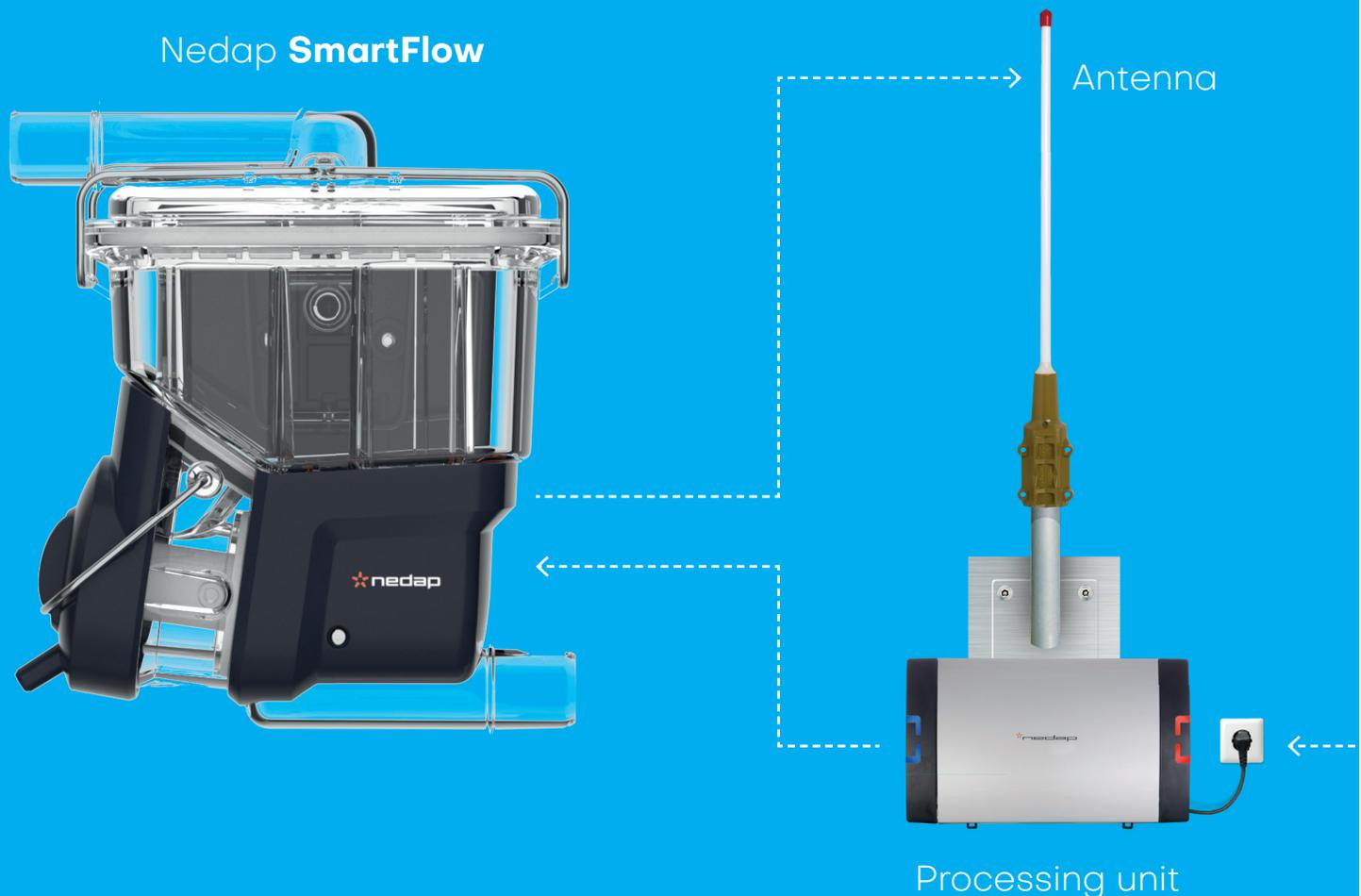
Vacuum fluctuations at flowrate 6 kg/min of the Nedap SmartFlow compared to a conventional freeflow milk meter.

## Wireless

The Nedap SmartFlow is the first milk meter that is completely wireless. The so-called 'SmartFloat' inside the device and the Processing unit form the intelligent brains and the heart of the system. They combine advanced technologies that make power supply, the measuring principle and data communication completely wireless. As a result, the Nedap SmartFlow excels in cost and maintenance efficiency and ease and speed of installation. It eliminates malfunctioning due to poor or faulty wiring. In combination with the elegance of the device, it also benefits the appearance of the milking installation.

## SmartFloat and Processing unit Highly innovative yet widely proven

For the SmartFloat and the Processing unit, Nedap uses technologies that are new to milk meters. However, they are proven worldwide and used for many years in other Nedap dairy management solutions and connected devices from different Nedap Business Units. The SmartFloat is equipped with state-of-the-art technologies for the most accurate and reliable measurements. It has smart functionalities on board such as a data-memory and a control system that monitors whether the device is correctly installed, functions properly, cleans properly and has a data connection. Data is transferred via Ultra High Frequency (UHF) communication. The powerful Processing unit is also used for other applications such as Nedap CowControl. The entire system excels in robustness, durability, scalability and easy integration.



## Operational and strategic performance insights

The Nedap SmartFlow measures and registers the milk yield and flow rate of individual cows during each milking with the highest accuracy and resolution. It empowers dairy farmers and their teams with real-time management information by providing operational and strategic insights into the performance of individual cows and groups. They are presented within the interface of Nedap's dairy management system in a user-friendly way and can be integrated with other farm automation systems and dairy management programs. These insights help farmers to identify bottlenecks, make better informed decisions and have strategic insights to continuously improve productivity and profitability.

## Automated milking process control

The Nedap SmartFlow has a key role in the automation of various milking processes. The speed and reliability with which it controls these processes is unmatched. It functions as a sensor for automatic cluster take-off. Based on the recorded flow rate, it controls automatic pulsation and stimulation for efficient and comfortable milking. A unique and highly valuable feature of the Nedap SmartFlow is Immediate Kick-off Detection. This feature ensures that the milking process of an individual cow stops immediately when a teatcup or cluster sucks air, so that no problems arise.

## ICAR approval expected

ICAR certification is pending. Based on its specifications and the results of all tests currently performed, Nedap expects it to meet all ICAR standards and requirements for recording, use in milking equipment, hygiene and accuracy.

Nedap MPCU



### Accurate recording

- ✓ Milk yield
- ✓ Flow rate

### Wireless

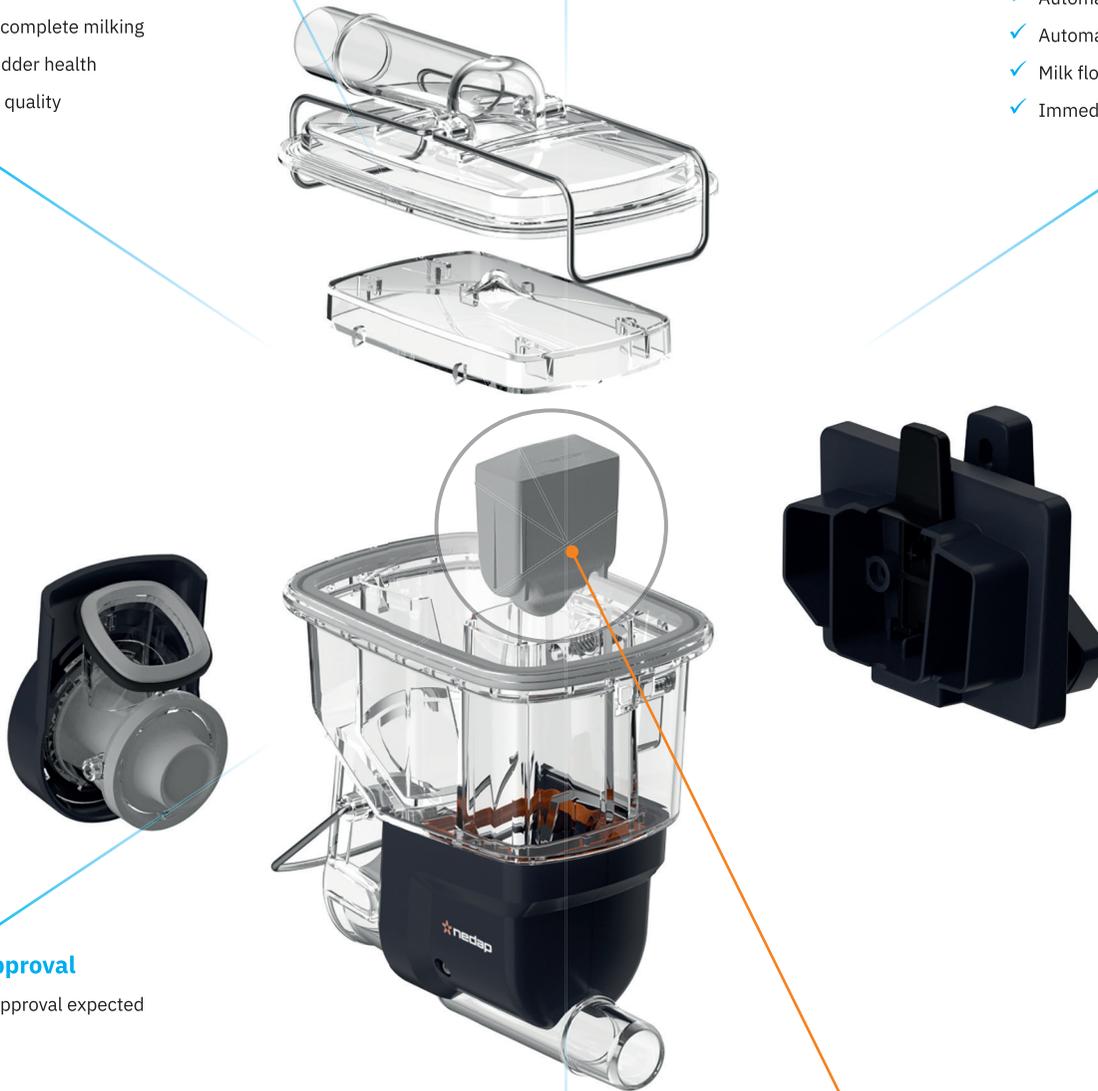
- ✓ Cost and maintenance efficient
- ✓ Fast and easy installation
- ✓ Eliminates cable connection faults
- ✓ Elegant

### Continuous and completely free milk and air flow

- ✓ No vacuum drops and fluctuations
- ✓ Gentle and complete milking
- ✓ Improved udder health
- ✓ Higher milk quality

### Milking Process Control

- ✓ Automatic cluster take-off
- ✓ Automatic pulsation
- ✓ Milk flow controlled stimulation
- ✓ Immediate Kick-off Detection



### ICAR approval

- ✓ ICAR approval expected

### System benefits

- ✓ Proven
- ✓ Scalable
- ✓ Easy integration
- ✓ Plug-and-play

### Solid, durable and hygienic

- ✓ Robust materials
- ✓ No moving parts during milking process
- ✓ Wear-resistant construction
- ✓ Excellent cleaning

### SmartFloat

- ✓ State-of-the-art recording technologies
- ✓ Battery-powered
- ✓ Data-memory
- ✓ Smart control system
- ✓ UHF data communication

# Nedap MPCU

The elegant Nedap MPCU (Milking Parlor Control Unit) has been developed for maximum labor efficiency and ease of use in the milking parlor. Through the device, farmers can control automated milking processes and cow separation with as few actions as possible. It provides relevant information at the right time in the milking parlor in an easy to understand way. By means of LED lighting, farmers are clearly informed about process updates and issues that require attention. The modern device with its elegant look uses touchscreen buttons and can be built into cabinets as well as being mounted on tubes. An emergency mode ensures that essential milking processes always continue, even when communication with the management system might be down. The Nedap MPCU is easy to install and maintain and extremely robust.

## Process control

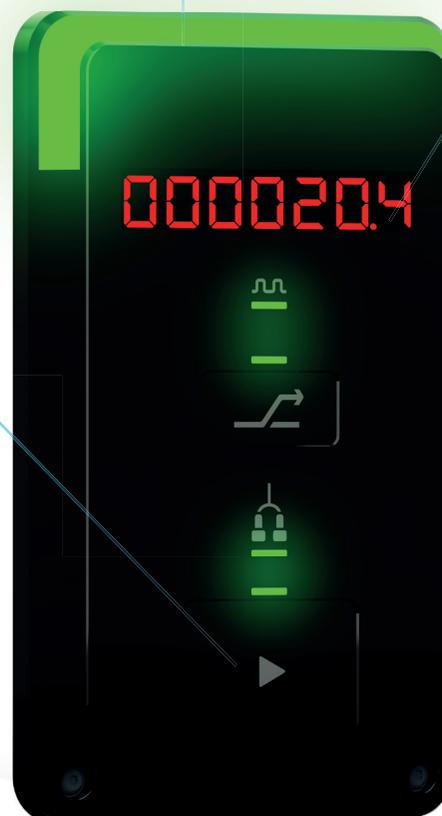
- ✓ Start/stop milking process
- ✓ Automatic cluster take-off
- ✓ Pulsation
- ✓ Milk flow controlled stimulation
- ✓ Cow sorting
- ✓ Cleaning
- ✓ Emergency mode
- ✓ Milking block

## LED signals

- ✓ Milking status
- ✓ Cow milked out
- ✓ Cow not identified
- ✓ Milk attention

## Display

- ✓ Milk yield
- ✓ Cow number
- ✓ Settings



## User friendly

- ✓ Intuitive user interface
- ✓ Presents only relevant process updates and attentions
- ✓ User Experience based on efficiency

## Elegant device

- ✓ Modern look
- ✓ LED lighting
- ✓ Touchscreen buttons (capacitive)
- ✓ In-cabinet or on-tube mounting possible

## Engineering excellence

- ✓ Easy to install and maintain
- ✓ Water and dust proof (ip65)
- ✓ Extremely robust materials
- ✓ EMC approved



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