

**better milking advice with**



Understand and manage udder health and milk quality problems



## Logging and Analyzing Milking Vacuum

Udder health problems are often related to the milking equipment, many times in combination with inadequate milking routines. Notorious are teat-end vacuum fluctuations due to poor quality liners, liner slips or insufficient vacuum capacity. Pathogens reaching the teat-end due to 'backspray' or 'cluster-flooding' is another known cause.

BioControl's VaDia is designed for milking technicians, advisers, veterinarians and other professionals in the dairy industry to deal with these problems. It is the next-generation Milking Time Test (MTT) instrument for testing during milking ('wet test') and is the result of a close cooperation with the International Dairy Federation IDF and Tine, the Norwegian dairy farmers cooperative.

Malfunctioning pulsators also have a big impact on udder health and milk quality. The VaDia can be used for quick and easy Pulsator Testing and Falloff and Attachment Testing (ISO 5707 and 6690).

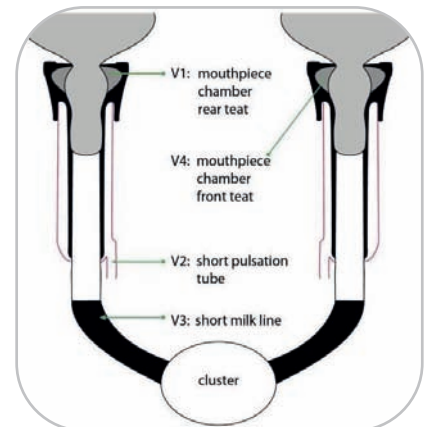
Milk line cleaning – Slug analysis, The cleaning of the milk line is assured through a few different processes. The VaDia is analyzing the physical aspect of the slug that is being sent through the milk line.

VaDia is battery operated and small and lightweight enough to be taped to a teatcup during milking. VaDia works completely 'stand-alone', which enables the adviser to forget about the actual measurement and concentrate on observing milking routines. The logged data is analyzed after or during milking with VaDia Suite, an easy-to-use PC-tool to view vacuum details and generate summary reports.

A Bluetooth streaming mode is available for real-time, in-parlor diagnostics. This is also handy for advisors, schools and practical farmers who can use VaDia as a training tool for new milkers and students. The new user interface for VaDia Suite is adapted for touch screen use, allowing the user to see the data live and perform tests and recordings in the parlor as well as the VaDia Mobile for Android operating systems.



*Taped to cluster during milking*



*4 vacuum logging points*



*Small, lightweight, 'shell-curved'*



*4 vacuum channels, indicator light and watertight USB*



*Alkaline possible if rechargeable empty*

- 4 vacuum channels, 200 samples/second/channel, 8 hours logging capacity
- Log-file retrieved through USB
- Bluetooth true time streaming with 200 samples/second/channel
- Rechargeable AA battery, charging from PC-USB  
If battery is empty: Alkaline AA can be used for emergency
- VaDia Suite software for analyzing and report making
- Water resistant housing. 90x60x30 mm. 85 grams
- Up to 80 kPa, accuracy  $\pm 0.2$  kPa



developed in cooperation with



# VaDia Suite PC Program for Analyzing and Report Making

Fully integrated PC-software with modules for:

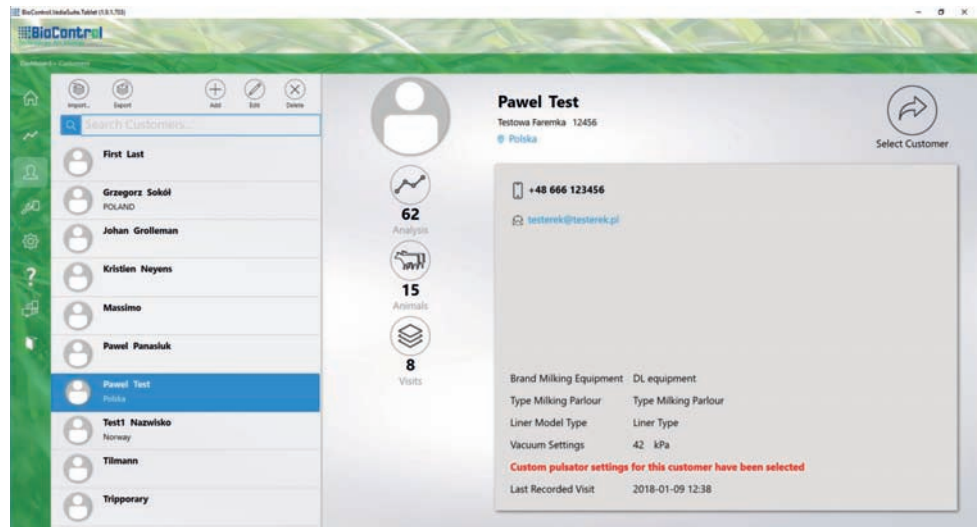
- Milking Time Testing and Milking Registration
- Pulsator Testing (ISO 6690), Cluster Falloff and Attachment Testing (ISO 6690)
- Milk line cleaning – Slug analysis

New User Interface Adopted to Touch Screens

Automatic updates when you start up the PC program.

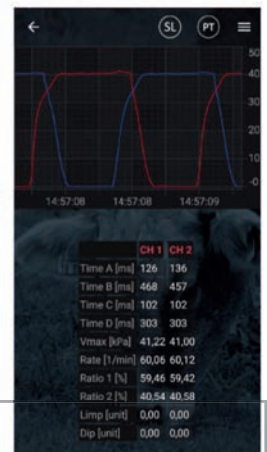
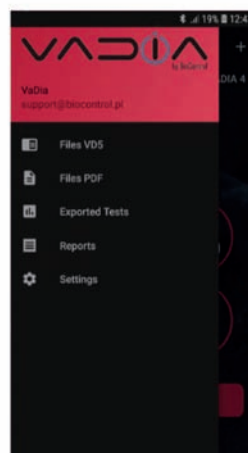
Comprehensive customer database and results from previous tests.

Available in many languages, including Asian languages.



## VaDia Mobile for Android

- View vacuum in real time
- Up to 4 VaDia devices connected at once
- Live Pulsator Test results
- Milk line cleaning – Slug analysis
- Easily create, browse and share reports
- Quick print results on the 2" thermal printer



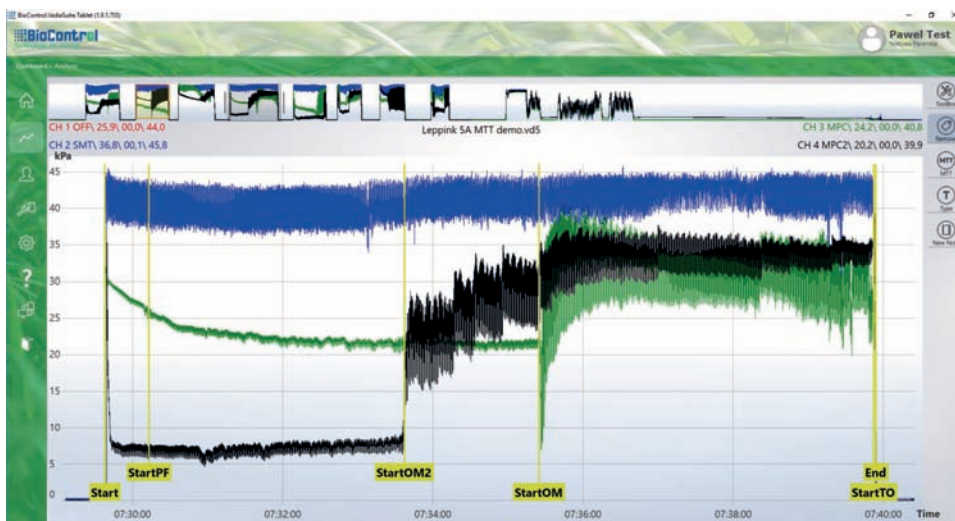
Reports made as pdf for easy storing and emailing.

Deviations from target values highlighted.

Reports with summary page and chosen information from tests.

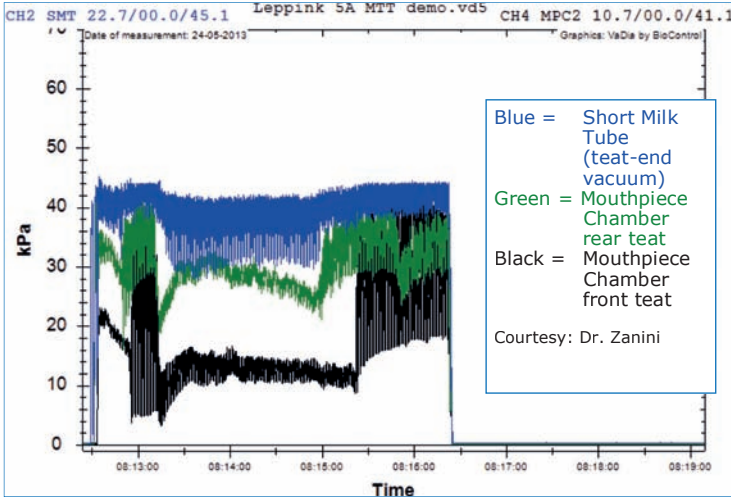
Easy Bluetooth streaming with fast insertion of pulsator number.

For all brands and types of milking equipment, including robots.



# Analyze Data Gathered with the VaDia

Analyze Milking Time Test results and get information regarding: preparation time, let down time, peak flow time and vacuum, Mouth Piece Chamber and Short Milk Tube vacuums, overmilking, irregular vacuum fluctuations, etc.



Bimodal milk release, significant overmilking

Registration date 02/11/2016 09:53 Notes  
My notes to the milking process

Animal Number 1458 Milk Yield 18

Start Preparation 2016-11-02 09:53:52

Finish Preparation 2016-11-02 09:54:25

Unit Attachment 2016-11-02 09:54:31

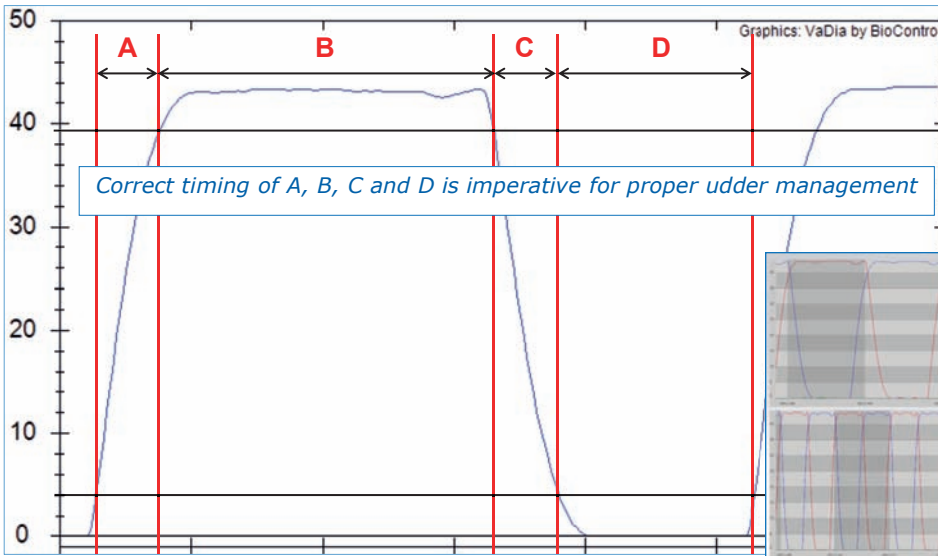
Preparation time 00:00:33.799

Teats: Front Left, Front Right, Rear Left, Rear Right, All (selected)

Teat length: Medium  
Teat diameter: Thin  
Teat shape: Normal  
Teat condition: Good  
Default name: [ ]

Buttons: Save, Cancel

Record information during milking



Compare pulsator and vacuum with customer set targets.

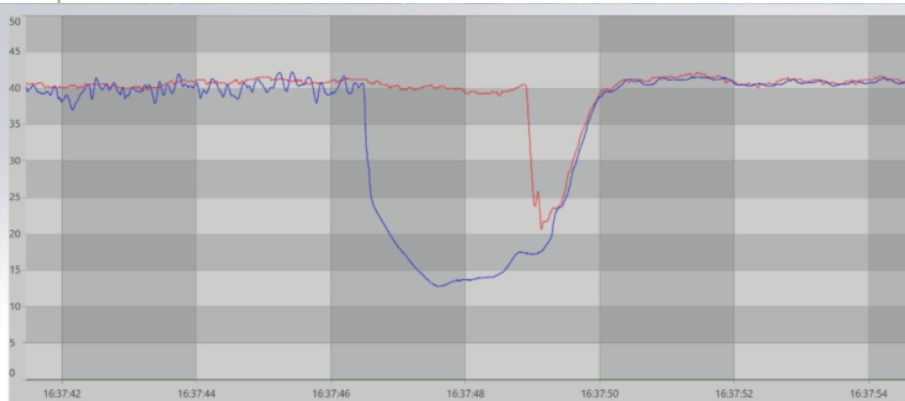
VaDia Suite Pulsator Test Results

Notes

Pulsator number 1

	Channel 1	Channel 2	Channel 1	Channel 2
Time A (ms)	97	97	59,4	59,9
Time B (ms)	471	504	56,2	60,0
Time C (ms)	114	103	43,8	40,0
Time D (ms)	328	297	9,6	9,7
Vmax (kPa)	43,6	43,5	46,6	50,4
Percent A (%)			11,3	10,3
Percent B (%)			32,5	29,7
Percent C (%)			3,8	3,8
Dip (µm/s)			0,0	0,0

Milk line cleaning – Slug analysis, The cleaning of the milk line is assured through a few different processes. The VaDia is analyzing the physical aspect of the slug that is being sent through the milk line.



Notes

Scale: kPa  
Velocity: 13,61  
Slug Length (sec): 2,41  
Distance: 10  
Diameter: 48,00  
Vacuum drop: 29,2  
Work Vacuum: 42

## The VaDia gives you...

### Easy Milking Time Test

VaDia can be used for vacuum logging during milking to better analyze milking routines and milking equipment in order to improve udder health and milk quality. Bluetooth streaming data enables immediate, in-parlor results.

VaDia works completely 'stand-alone', which enables the advisor to concentrate on observing milking routines. VaDia can be used on all brands and types of milking equipment, including robots.

#### Get insight into:

- Proper cow preparation (fast milk release)
- Overmilking
- Automatic take-off functioning
- Do these liners fit these teats?
- Vacuum level and fluctuations
- Average teat-end vacuum during peak flow



### Fast Pulsator Testing

Correct timing of the A, B, C and D-phases is important to ensure fast and complete milking. Correct vacuum build-up in the pulsator channels is necessary to ensure proper liner opening and closing.

The VaDia Suite PC-software is equipped with a Pulsator Test module for fast and easy pulsator 'dry-testing' according to ISO 6690 and for detailed analysis during milking in the Milking Time Test.

#### Pulsator testing can be done:

- Online (Bluetooth streaming for immediate result during the test)
- Offline (analyzing all pulsator data after the test)



### Cluster Falloff and Attachment Test

The objective of the cluster falloff and attachment test is to test if the vacuum recovery is in accordance with the ISO 6690 standard, which is mandatory in certain countries.

The VaDia Suite contains a module to test if the vacuum recovery is according to the standard.

#### Get information regarding:

- Undershoot
- Vacuum drop
- Overshoot



## VaDia is easily attached to the milking cluster



needle pierces 'straw' in liner



straw in Mouth Piece Chamber



piercing straw in Short Milk Tube



fits every milking cluster



VaDia on cluster, ready for milking



VaDia on robot

## Complete VaDia Startup kit:



VaDia kit in robust case:

- 2 x VaDia
- USB cable
- Power supply
- Piercing needle
- Roll of silicon tube
- Accessory kit

One User license for Full VaDia Suite software :

- Milking Time Testing and Milking Registration
- Pulsator Testing and Fall-Off Testing
- Milk line cleaning – Slug analysis

