

# Optimize Cheese Yield with Rheonics CoaguTrack

Maximize cheese yield with CoaguTrack. Inline, real-time curd firmness monitoring for the perfect cut. Hygienic, precise, and maintenance-free.

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Rheonics • USA • Switzerland



# Agenda

1. Introduction
2. SRV
3. Coagutrack
4. Portable Unit
5. Benefits

# Introduction

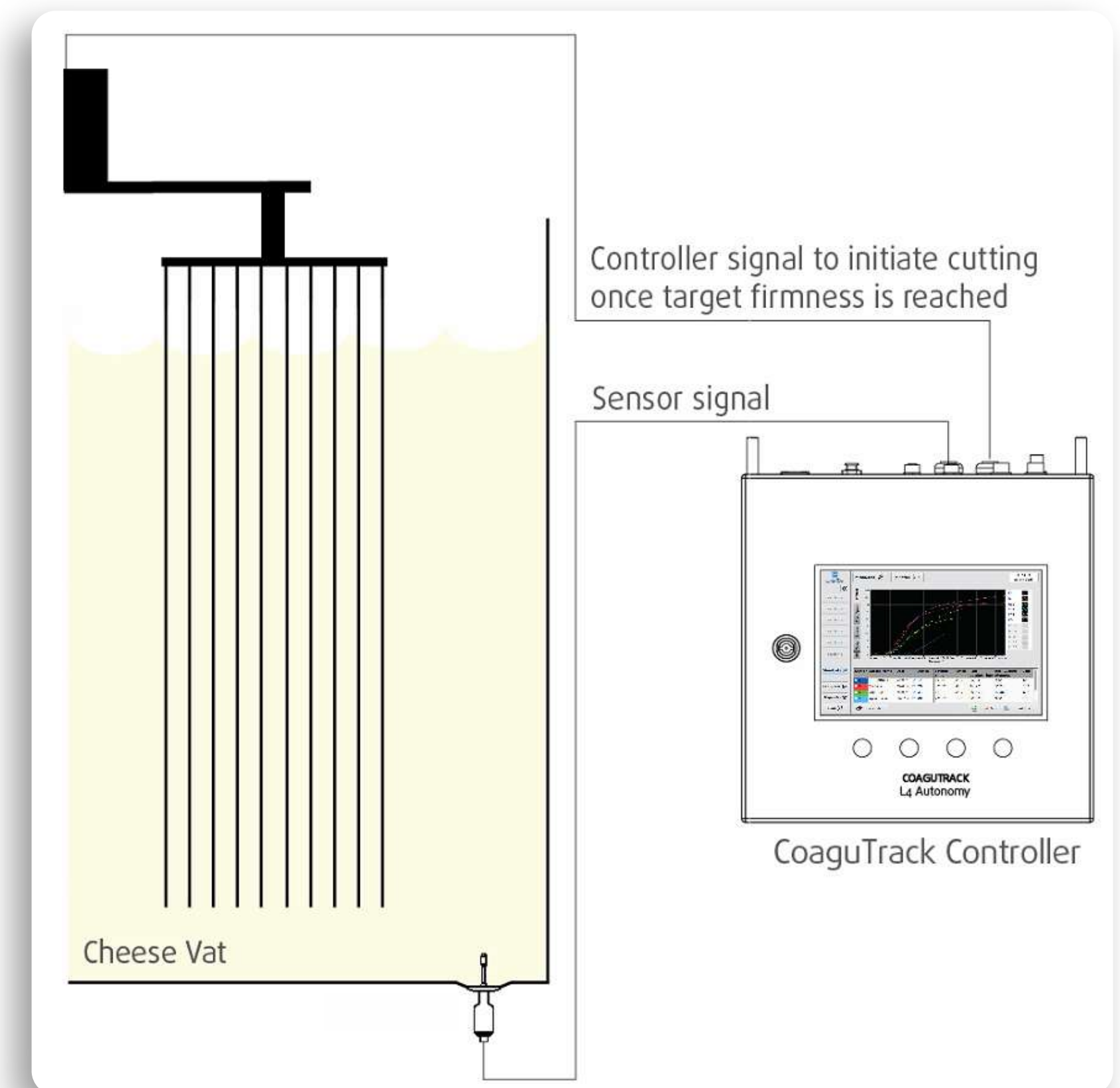
# Introduction

## Automated cutting process control

- CoaguTrack is an integrated solution from Rheonics that measures and tracks renneted milk consistency
- CoaguTrack is built to provide extremely high repeatability and reproducibility of measurement through its inherent resolution and stability
- Enables tight and consistent determination of cutting point on every batch

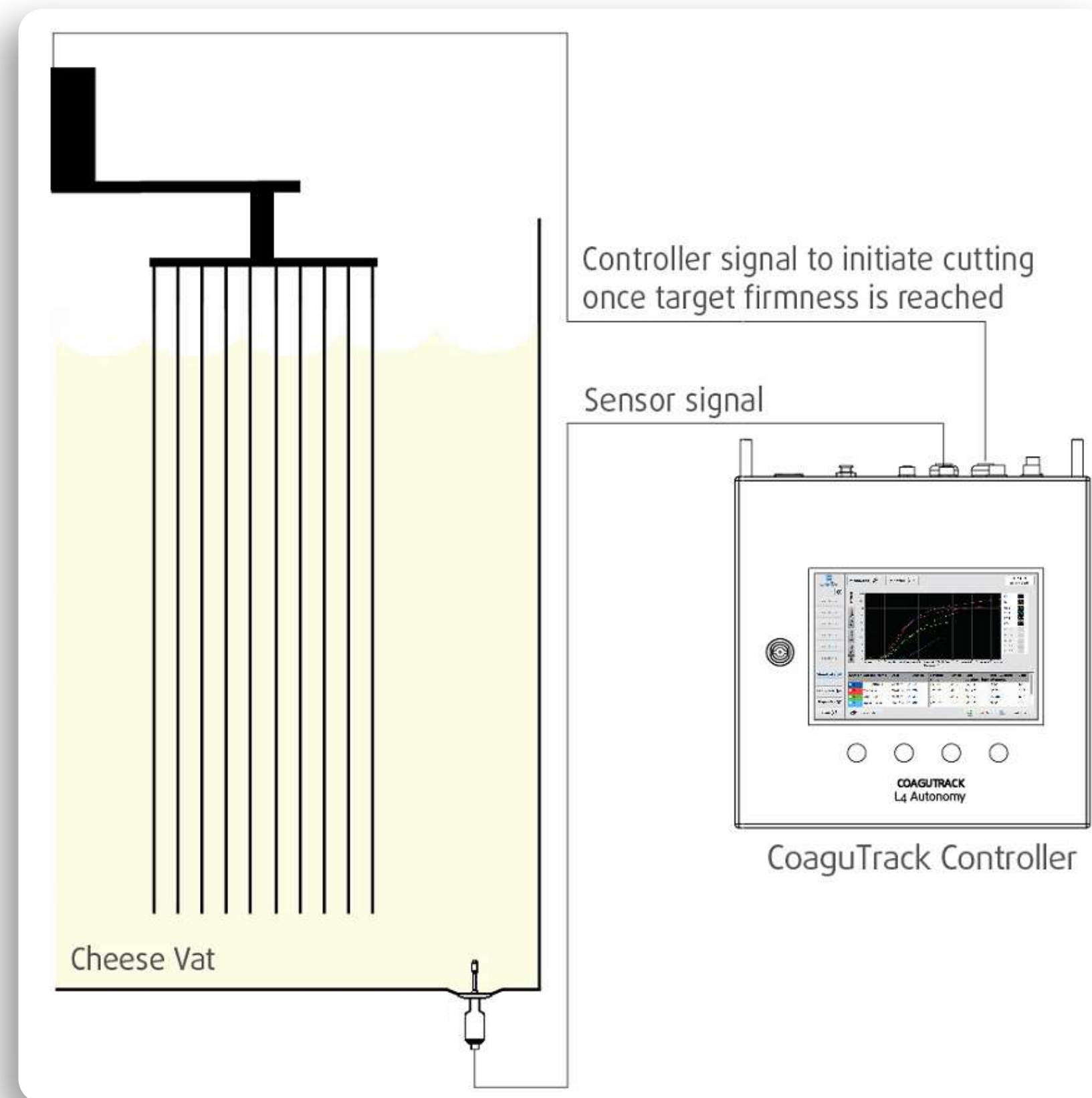


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# Introduction

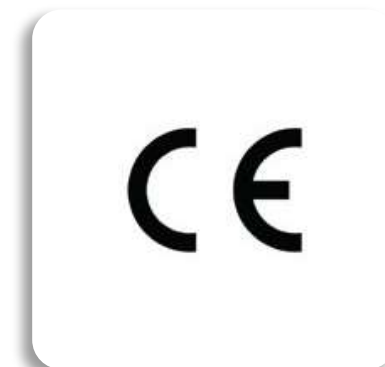
## Automated cutting process control



Our sensors are built on the industry leading SRV inline sensing platform and does not disrupt the structure of the fluid under measurement



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# Ecosystem

## Automated cutting process control - Level 5 autonomy

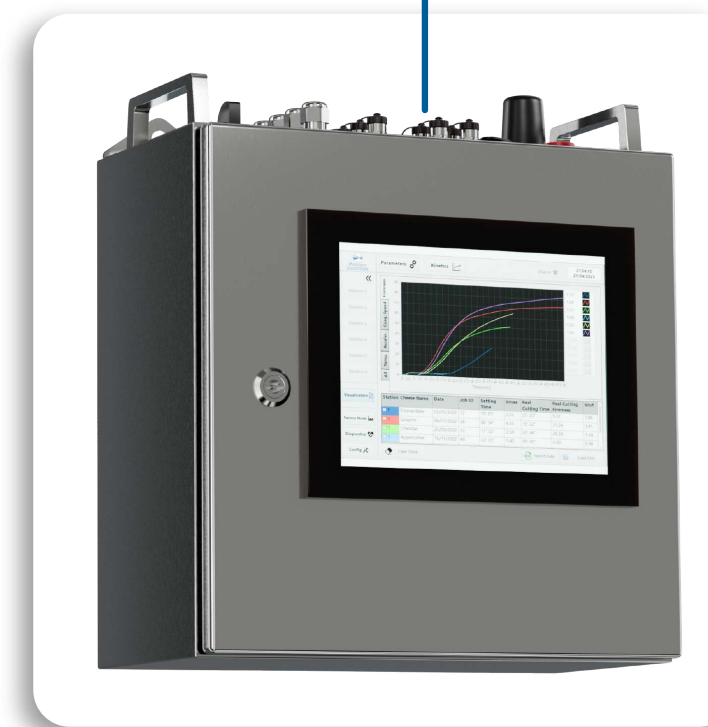


Coagulation sensor



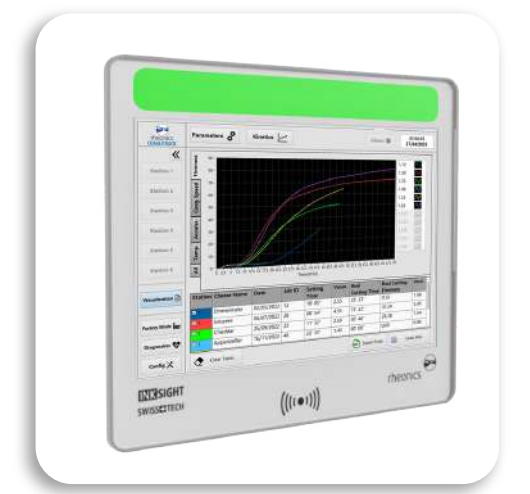
### SRV Sensor

Robust inline coagulation sensor to detect the smallest changes in curd firmness



### CoaguTrack Controller

Rheonics CoaguTrack Software tracks curd firmness, coagulation speed, and process acceleration for precise and repeatable cutting point determination.



### CoaguTrack SmartView

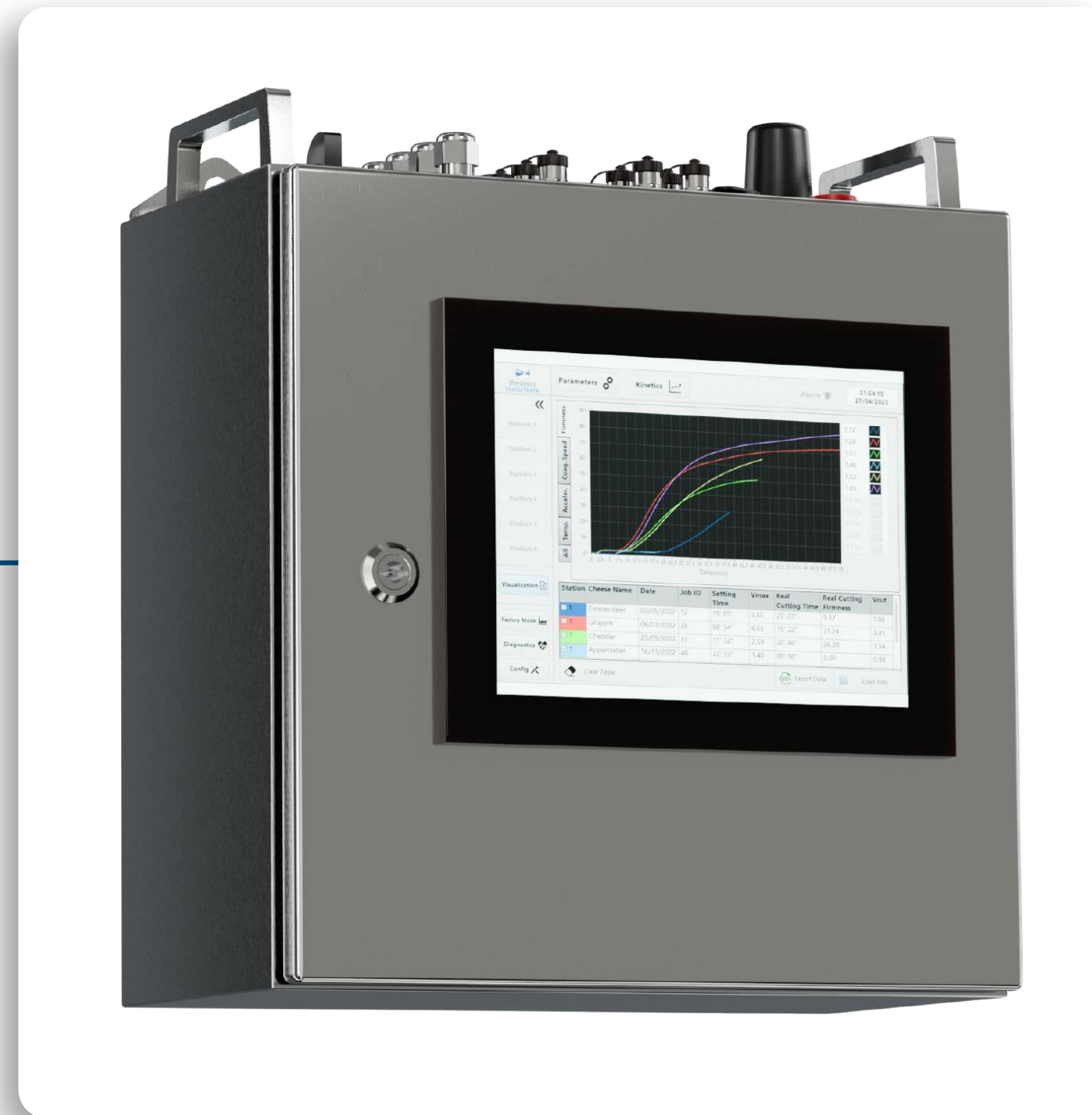


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# Specifications

Total plant control: Link up to 4 sensors to one CoaguTrack unit.

"Size of a Small Coffee Machine"



## SRV Firmness Sensor

- Flush, Short and Long probes
- Starting at 50mm (1.6") insertion in the tank

## CoaguTrack RPS - A

- **Power Input:** 85 - 264 VAC
- **Dimensions (WxHxD):**  
380 × 444 × 333 (mm)  
15 × 17.5 × 8.75 (inch)
- **Power Consumption:** max. 26W
- **Protection:** IP54
- **Total Weight:** 17 kg (38 lb)



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# SRV sensor

# SRV Firmness/Gelation Sensor

A robust, maintenance-free probe designed for the cheese vat.

## Small form factor and easy installation

Fits in the palm of your hand; robust and zero maintenance



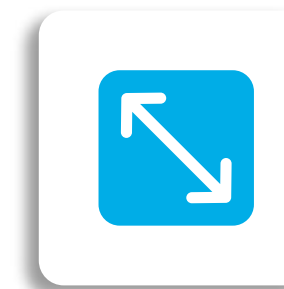
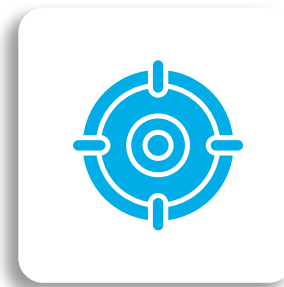
## All 316L stainless steel wetted parts

Hermetically sealed housing, no gaps or moving parts



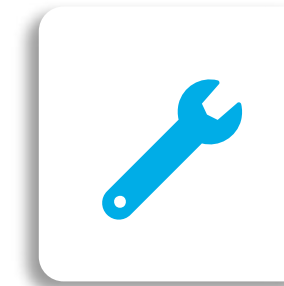
## Accurate, repeatable, reproducible

Newtonian, non-Newtonian, single- and multi-phase fluids



## Wide range

Covers entire range of milk and curd consistencies



## Built-in fluid temperature measurement

For fast, reliable temperature monitoring



## Hygienic Certifications

Certified with EHEDG and 3-A

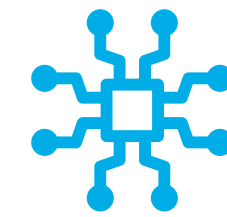


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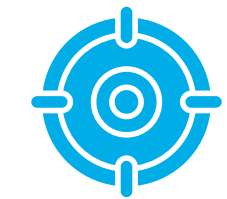
# CoaguTrack

# CoaguTrack

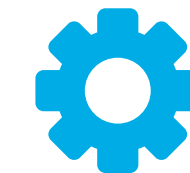
Real-time cheese coagulation tracking & cutting time optimization



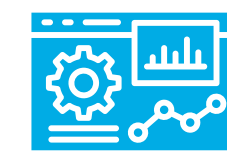
Level 4 autonomy in cheese cutting



One location - control of multiple coagulation tanks



Possibility to connect to central data system



Cheese cutting monitoring and control in real-time



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# HMI

## Operator focused design

The screenshot shows the 'Parameters' tab of the HMI. It includes a sidebar with station selection (Station 1 to Station 6), 'Information' fields for Job # (75), Date (27/04/2023), and Reference Job ID (Emmentaler| 74 | 20230419), and 'Operational Parameters' table.

Parameters	Type	Select	Value	Unit
Target Cutting Firmness	Viscosity	<input checked="" type="checkbox"/> Visible	25	
Measurement initiation after renneting	Time	<input checked="" type="checkbox"/> Auto	120	seconds
Measurement stop alert	Time	<input type="checkbox"/> Auto	0	minutes

### CoaguTrack HMI use

- Operator-focused design
- In the Parameters tab user can create the Job ID and include operational parameters
- Custom parameters can be added to suit user needs

The screenshot shows the 'Kinetics' tab with a real-time graph for 'Cheese: Parmesan | Job ID: 51 | Station#: 1 | Main Operator: Test Operator'. The graph plots Firmness (left y-axis, 0.00 to 15.00) and Coag. Speed (right y-axis, -0.5 to 3.6) against Time (min) (x-axis, 0 to 7.5). Below the graph are control buttons (Rennet, Start Measurement, Cut, Stop Measurement) and a 'Real time visualization' table.

Time from renneting	Firmness	Setting time	Vmax	Real cutting time
07'30"	14.33	00'00"	3.6	02'42"

### CoaguTrack operation

- In the Kinetics tab, user can start the measurements
- Graph displays the time history of firmness, speed, acceleration, temperature, as well as the firmness target value for curd cutting

The screenshot shows the 'Visualization' tab with a graph comparing 'Firmness' and 'Coag. Speed' over 'Time(min)'. Below the graph is a table for data analysis and reporting.

Station	Cheese Name	Date	Job ID	Setting Time	Vmax	Real Cutting Time	Real Cutting Firmness	Vcut
<input checked="" type="checkbox"/> 1	Emmentaler	02/05/2022	12	19' 05"	2.55	25' 23"	9.32	1.86
<input checked="" type="checkbox"/> 1	Gruyere	06/07/2022	28	08' 54"	4.55	15' 22"	31.24	3.41
<input checked="" type="checkbox"/> 1	Cheddar	25/09/2022	33	11' 32"	2.59	20' 46"	26.38	1.54
<input checked="" type="checkbox"/> 1	Appenzeller	16/11/2022	48	22' 33"	1.40	00' 00"	0.00	0.98

### Data analysis & reporting

- CoaguTrack software supports multi-job data analysis
- Visualization tab is used by users to load and compare previous Jobs

# Portable Unit

# Portable Unit

## CoaguTrack in RPS-PU format to support mobile tests and validation

- Convenient, portable and robust design for quick investigations of rennet or new cheese tank installation
- Industrial PC with 10.4" touch screen and Rheonics CoaguTrack software inbuilt
- Single and dual tank monitoring capabilities
- Communication: Ethernet / WiFi / RS485 / USB



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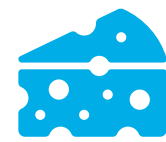
# Benefits

# Key Benefits

Focus on cheese quality instead of measurement skills!

## Highest product consistency

Tighter firmness tracking enables cutting time optimization



## More efficient operations

Ensures that curd consistency directly controls the quality of the end product



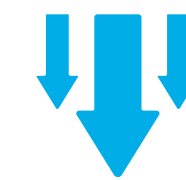
## Reduce Costs

Prevents cutting time errors and resulting rejected batches



## Easy scalability

Save and load jobs for repeat batches



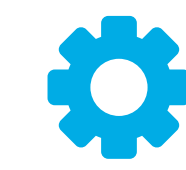
## Reduce Wastage

and increase efficiency; operators report significantly higher throughput.



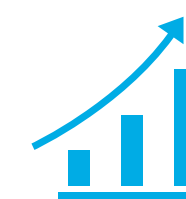
## Higher Operator Trust

Eliminates manual measurement



## Completely Automate

Automate cheese production by removing subjective judgment



## Data-driven Decisions

Tracks and traces every job



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# Ready to upgrade your process?

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Works for all cheese types

Hard



Soft



Sauce



Processed



Fresh

