



# PhaseVu AI

IMPROVE SEPARATOR AND  
FILTER PERFORMANCE WITH  
INTELLIGENT DIAGNOSTICS

## PhaseVu AI: Turning Liquid Carryover into Actionable Insights

PhaseVu AI is a Machine Learning diagnostic for liquid carryover and mist breakthrough in gas processing. It combines live process data (flow, pressure, temperature, differential pressures and levels) with LineVu visual evidence from inside the gas pipeline to build a digital twin of normal separation behavior and provide root cause analysis.

The system then shows what is driving liquid carryover, flags abnormal deviations early and provides time-stamped visual proof for troubleshooting and reporting.



### AI-Driven Diagnostics

Detects liquid carryover and mist using visual evidence. Correlates process data with visual data.



### Dynamic Alarm Thresholds

Smarter alerts that adapt to real process behavior.



### Predictive Separation Performance

From reactive monitoring to proactive optimization.



### Improve uncertainty on flow metering

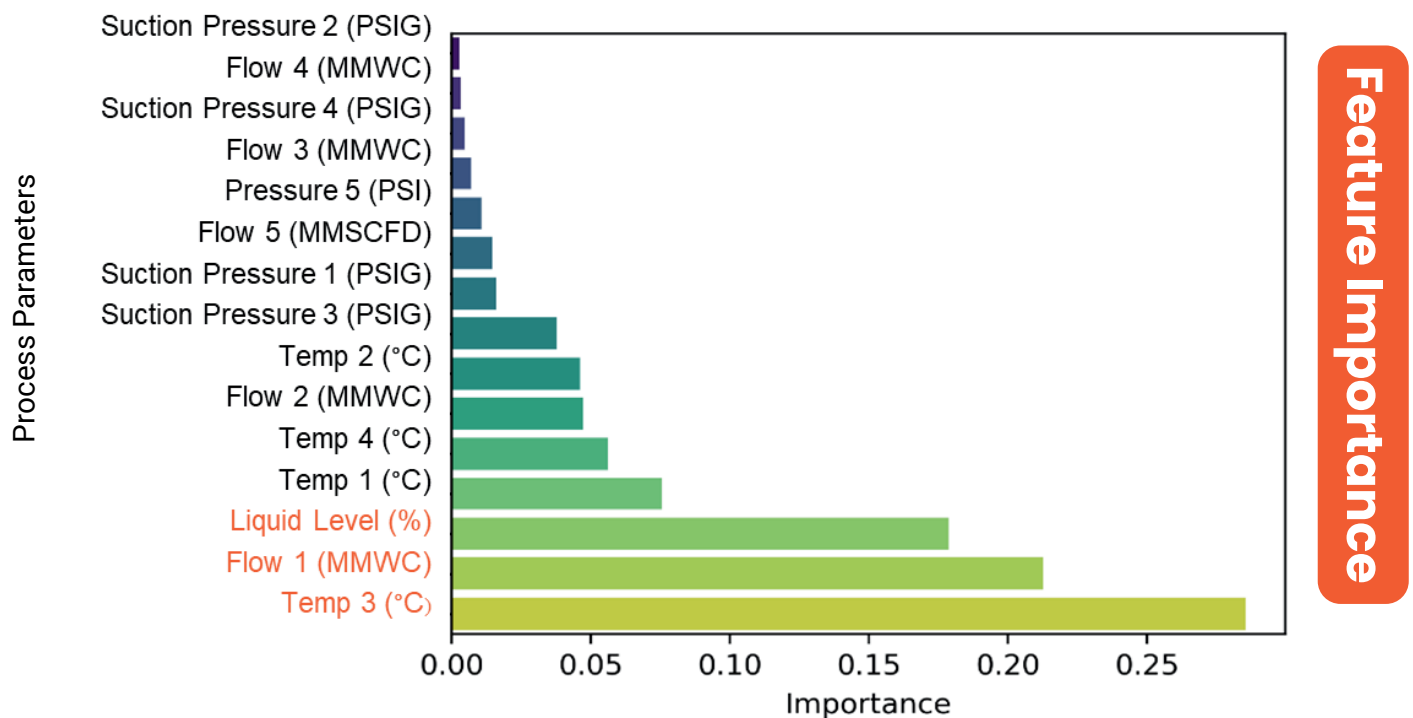
The presence of liquid in gas flows increases uncertainty on flow meters from around 1% to up to 10%.

# Savings & Compliance Advantages

PhaseVu AI delivers significant financial advantages by helping to detect and reduce liquid carryover into gas export lines, which can cost operators millions annually. Studies show that eliminating even small amounts of liquid carryover can protect revenues by up to \$5 million per year on a 100 MMSCF/Day gas flow. In addition to revenue protection, this tool helps optimize pigging and disposal costs, minimizes unplanned shutdowns, and strengthens compliance with contractual and regulatory gas quality requirements, providing operators with both cost savings and peace of mind.

## What Is Driving Liquid Carryover ?

The feature importance chart below shows a root cause analysis from PhaseVu AI. In this example, of the 15 monitored process parameters, three have the greatest influence (Liquid level, Flow 1 & Temp 3) on the mist flow observed at the separator outlet. In this case, adjusting the liquid level threshold would improve performance.

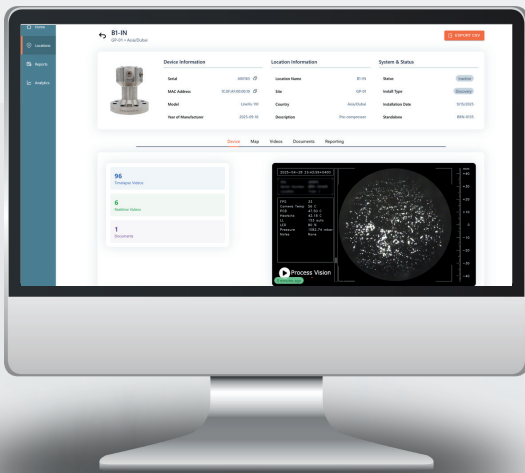


## Operational Benefits

- ✓ Improved separator/filter performance via driver insight
- ✓ Fewer trips and safer restarts by spotting carryover during transients and abnormal operations
- ✓ Fewer false alarms by replacing fixed setpoints with adaptive thresholds trained on your operating envelope



# Real-Time Insight in Your Separator



## Key Features:

1

### AI-Driven Diagnostics:

Better understanding of carryover events by correlating process conditions with observed mist/liquid behavior.

2

### Dynamic Alarm Thresholds:

Replaces fixed setpoints with adaptive thresholds that reduce nuisance alarms and detect abnormal behavior earlier.

3

### Predictive Insights:

Identifies variables driving carryover risk to guide proactive maintenance and tuning.

4

### Visual Proof:

Provides time-stamped video evidence aligned to historian tags for root cause analysis, disputes, and compliance reporting.

5

### Continuous Learning:

Model retraines on new operating data so thresholds and predictions remain aligned as the plant changes.

# 5 Steps of PhaseVu AI

1

## DATA INPUT

Process tags (flow, pressure, temperature, DP, levels) + LineVu visual metadata

2

## MODEL

Learns your normal separation behavior to establish digital reference

3

## ALERT

Flags deviations early (carryover onset, filter breakthrough, abnormal process shifts)

4

## EXPLAIN

Highlights likely drivers (e.g., DP changes, level behaviour, temperature swings)

5

## PROVE

Stores time-stamped video frames for reporting and rapid Root Cause Analysis

## Contact us today

Ask about a short-term study with PhaseVu AI to improve your separator performance.



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