



PREMOS - Predictive Monitoring Service for air filtration systems

With the combination of on-site hardware and an easy web-based platform, PREMOS tells Keller when your air filtration system is not meeting its healthy parameters.



Sensors capture important operating parameters using a web-based data platform that is consistently monitored.

Objective

Air filtration equipment is not frequently the main focus of facility system operators since they are generally placed on the perimeter of the production environment. However, a system breakdown can result in production downtimes as well as health and safety issues.

Keller will optimize your system performance by offering an innovative condition monitoring service. This **predictive monitoring service**, or PREMOS, provides continuous remote monitoring of your air filtration system's status.

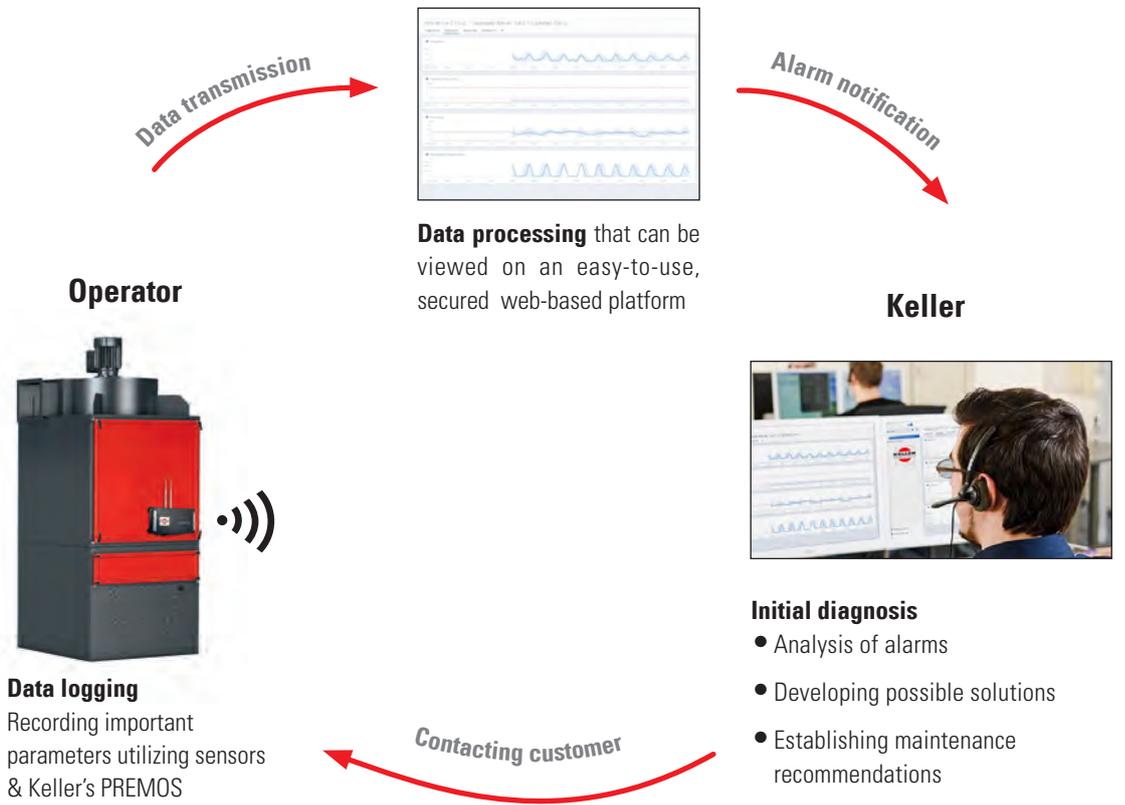
The objective is to establish a means of advanced warning to the customer in order to prevent potential damage, thereby avoiding unscheduled system downtimes, and reducing maintenance costs.

Overview

The system consists of a monitoring box, a sensor package, and a web-based data platform.

In the event that threshold parameters are exceeded, an initial diagnosis of system data is performed by Keller.

The operator is then advised of the results and provided appropriate recommendations.



System characteristics

- Easy installation of PREMOS. Data collection system is separate from system controls.
- Data transmission through secure cellular network (no I.T. infrastructure is required)
- Up to 8 analog sensors available
- Continuous data logging (once per second)
- Applicable for all types of air filtration systems (dry, wet, mist, eLine)
- Can be retrofit for air filtration systems from other manufacturers

Typical parameters	<ul style="list-style-type: none"> • Filter resistance of main and secondary filters • Power consumption • Vibrations 	<ul style="list-style-type: none"> • Airflow • Compressed air consumption • Particle emission monitor • Pump flow 	<ul style="list-style-type: none"> • Other parameters, upon request
One-Time Setup Services	<ul style="list-style-type: none"> • Delivery and installation of PREMOS and sensors • Configuration of PREMOS, sensors and data connection 	<ul style="list-style-type: none"> • Test of data collection and data transfer • Setting parameters and alarm functions 	<ul style="list-style-type: none"> • Setting up customer access to web-based platform
Ongoing Services	<ul style="list-style-type: none"> • Continuous data collection, data hosting and data backups • Threshold monitoring • Data connection 	<ul style="list-style-type: none"> • Initial diagnosis in cases where parameters are exceeded • Proactive customer information including maintenance recommendations, if necessary 	<ul style="list-style-type: none"> • Wireless maintenance of PREMOS and web platform (e. g., software updates)

Advantages

	Cost reduction	Performance improvements
Preventing breakdowns and improving performance	•	•
Prolonging maintenance intervals by condition-based maintenance	•	•
Optimizing maintenance planning	•	•
Saving/reduction of spare parts storage	•	
Optimizing system operation	•	
Energy monitoring (e. g., power, compressed air)	•	
Optimizing service calls	•	
Facilitating system operator responsibilities	•	

- **Ensuring optimal system performance and reducing maintenance costs**
- **Provides smart preventative maintenance (maintenance when it is needed, not by a pre-determined schedule)**
- **Predictive monitoring of consumables (for the ability to have parts available before they become an urgent purchase)**



Example

Customer: Automotive supplier

System: VDN 5.6 wet separator

Application: Dust extraction of a grinding system

Operation: Three-shift operation

Cost of downtimes: \$1250 per hour (customer estimate)

Savings after four months of operation

1. Satisfactory cleaning

- Increasing cleaning intervals from every two weeks to adequate cleaning (on average, approx. every four weeks)
- Previous cleaning costs: approx. \$5000 per year
- New cleaning costs: approx. \$2500 per year

Cost savings: approx. \$2500 per year

2. Preventing system breakdowns

Unplanned system breakdown of approx. 4 hours could be avoided.

Cost savings: \$5000

Total savings: \$7,500



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