Condition monitoring of dust extraction systems to ensure peak system performance and to reduce maintenance costs

Sensors record important operation parameters which are permanently monitored by means of a web-based data platform.
Dust extraction systems are frequently not the main focus of system operators since they are generally assigned to peripheral equipment. However, a system breakdown can result in production downtimes and consequent significant costs, culminating in non-compliance with delivery commitments. Keller Service will optimize your system performance by offering a new predictive monitoring service that provides the permanent remote monitoring of a system’s status. The objective is to establish a means of advance warning to the customer in order to prevent potential damage, thereby avoiding unscheduled system downtimes and reducing maintenance costs.

Overview of our remote predictive monitoring service

A data box records measurement values via a sensor packet and sends it to a web-based data platform. For new systems, PREMOS can be designed as an integrated solution, for existing plants PREMOS can be upgraded.

For a permanent service, two different variants are available: PREMOS-Direkt and PREMOS-Expert.

Data logging

Recording important measurement values utilizing sensors and data box

Overview of our remote predictive monitoring service

Data transmission

Limit alarm

Data processing by web-based platform and visualization using a web browser

Operator

Keller

Initial diagnosis

• Analysis of alarms
• Developing possible solutions
• Establishing maintenance recommendations

System characteristics

• integrated solution for new systems or upgrade for existing plants possible
• no IT infrastructure required since data transmission is through a mobile network
• up to 8 analog sensors possible
• continuous data logging (once per second)
• applicable for all types of dust extraction systems (dry, wet, ENA/OENA, eLine)
• also applicable for dust extraction systems from other manufacturers
**Monitoring parameters**
- filter resistances of main and secondary filters
- power consumption
- vibrations
- air flow
- water flow rates
- other parameters, upon request

**Services (once, all-inclusive)**
- on-site installation of data box and sensors (only on upgrade)
- configuration of databox, sensors and data connection
- test of data collection and data transfer
- setting limit values and alarm functions
- setting up customer access to measurement data platform

**Services (permanent)**

<table>
<thead>
<tr>
<th>Service</th>
<th>PREMOS-Direkt</th>
<th>PREMOS-Expert</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanent data collection, data hosting and data backup</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Mobile fees for data transmission</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Limit value monitoring by the measuring data platform</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>24 h access possibility to the measuring data platform</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Possibility of preparation of CSF files (data export)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Remote maintenance of data box and measuring data platform (e.g. software updates)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>In case of limit values are exceeded direkt notification by E-Mail via the web-based data platform to the customer</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>First diagnosis in case of exceeding of limit values by an employee of Keller Lufttechnik</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Proactive notification of the customer by an employee of Keller Lufttechnik in case of limit values are exceeded, if necessary with maintenance recommendation</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**PREMOS-Direkt - Additional costs in case a telephone consultation is necessary.**
**PREMOS – Predictive Monitoring Service**

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

→ Ensuring system availability and reducing maintenance costs

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**Service advice with no obligation**

**Do not hesitate to contact us - we are pleased to be of assistance!**

**Contact**

Martin Kirschmann  
Phone +49 7021 574-178  
Fax +49 7021 574-150  
E-Mail martin.kirschmann@keller-lufttechnik.de

**Keller Lufttechnik GmbH + Co. KG**  
Neue Weilheimer Str. 30  
73230 Kirchheim unter Teck  
Fon +49 7021 574-0  
info@keller-lufttechnik.de  
keller-lufttechnik.de