

A Keller technician eliminates the imbalance of an impeller.

## Vibration analysis and field balancing for trouble-free and durable system operation

### Detection and elimination of the causes of failure

One of the keys to successful asset management is optimizing the efficiency of all systems. In addition to quality management and output, trouble-free operation is also very important.

The accumulation of particulate waste reduce the life cycle of both the fan and the air pollution control system, and is the primary cause of system downtimes and the resultant

high costs that are incurred. Frequent consequences are vibrations created by imbalance, resonances, broken weld seams bearing failure, etc.

To substantially extend the life cycle of the fan Keller Lufttechnik offers the benefit of assessing the current status of the fan at its location and making the necessary adjustments. An electronic vibration analysis provides a detailed performance analy-

sis. After having localized the cause of error, the imbalance of the impeller is corrected. (1-level or 2-level balancing). This preventive inspection saves costs and extends the service intervals of the fans.

The balancing service required is performed locally and under normal operating conditions.

### Advantages

- Extended life cycle of fan and air pollution control systems
- Prevention of consequential damages
- Time and cost savings with our mobile balancing



# Field balancing of fans in dust extraction systems



## Sample vibration analysis

Type	L-Cut 4
Serial No.	AU.1009967.2.1-3
Note	Commissioning
Measuring point	Motor flange
Measuring range Y-axis	60mVpp
Measuring range X-axis	120000 U/min
Power	12,5 kW
Max. vibration at speed 3047 U/min	1,0 mm/s
Motor speed	2885 U/min

## Assessment according to DIN/ISO 10816-3 Category 2\*

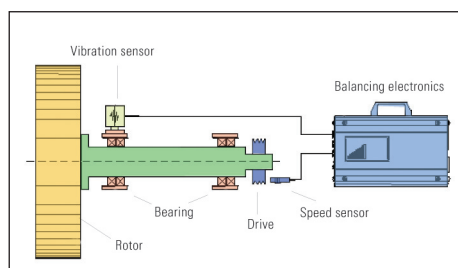
	Vibration speed mm/s			
	Good	Functional	Permissible	Unusable
Base				
Soft	0-2,3	2,3-4,5	4,5-7,10	from 7,10
Rigid	0-1,4	1,4-2,8	2,8-4,5	from 4,5

\*) applies to medium-sized machines up to 300 kW

## Sample balancing log

	System description	Date / Time
	<b>FAN 3</b>	<b>15.06.2009 / 09:00</b>
	<b>Measurement before balancing</b>	<b>Balancing result</b>
Balancing speed	2261 U/min	2261 U/min
Vibration velocity	20,9 mm/s	1,1 mm/s
Angle heavy side	157 °	101 °
Weight mass	+28,72 g	+ 1,66 g
Angle light side	337 °	261 °
Pitch circle diameter	900.0 mm	900.0 mm
Speed	2200 U/min	2200 U/min
		<b>Improvement: 94,4 %</b>

## Schematic diagram 1-level balancing



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