

## Technical data

	Respicon TM	Respicon 2 TM
<b>Principle of operation</b>	Simultaneous collection of airborne particles in three size fractions according to EN 481 (inhalable, thoracic, respirable). Scattered-light photometers in each of the three stages for time-resolved online measurements.	
<b>Collected dust fractions</b>	Inhalable: < 100 µm Thoracic: < 10 µm Respirable: < 4 µm (< 2,5 µm with optional inlet head)	
<b>Separation principle</b>	Two-stage virtual impaction	
<b>Measurement range [mg/m³] (DEHS particles, d = 1 µm)</b>	0 – 200	0 – 10
<b>Sensitivity [mV/mg/m³]</b>	20	300
<b>Detection limit [µg/m³] (DEHS particles, d = 1 µm)</b>	approx. 50	approx. 30
<b>Filter modules</b>	Filter cassettes for glass-fiber or membrane filters (37 mm diameter)	
<b>Mounting thread</b>	Whitworth thread W ¼" in bottom stage	
<b>Dimensions [mm]</b>	H x D: 110 x 60	
<b>Standards</b>	EN 481, ISO7708, ACGIH, AIHA, MAK, TRGS, test report acc. to prEN 13205 for Respicon TM	
<b>Sampling pump</b>		
<b>Volume flow [l/min]</b>	3,11	6,22
<b>Pressure drop</b>	4 kPa	
<b>Operation time [h] (as specified by manufacturer)</b>	> 8	ca. 24
<b>Data logger</b>		
<b>Channels</b>	4, 1 available for additional sensors	
<b>Interfaces</b>	USB, Bluetooth	
<b>Measurement interval [s]</b>	1 – 3.600, adjustable in 1-s steps	
<b>Storage capacity</b>	approx. 6 full days of measurement (@ 1 s measurement interval), max. 9 full measurement days (longer measurement intervals)	
<b>Operation modes</b>	Respicon TM/data logger	
<b>Battery mode</b>	Li-ion battery, charging time approx. 6 h	
<b>Power supply</b>	USB power supply and charger	
<b>Operation time [h]</b>	approx. 8	
<b>Display</b>	3.2" touchscreen, resistive	
<b>Accessories</b>	<ul style="list-style-type: none"> <li>• evaluation software</li> <li>• DALO carrying case</li> <li>• transport case</li> </ul>	
<b>Dimensions [mm]</b>	L x W x H: 185 x 100 x 40	
<b>Technical data subject to modifications</b>		

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## Respicon TM/Respicon 2 TM

Dust monitor with photometric measurement  
of dust fractions according to TRGS 900





# Respicon TM/ Respicon 2 TM

## For the simultaneous measurement of dust fractions

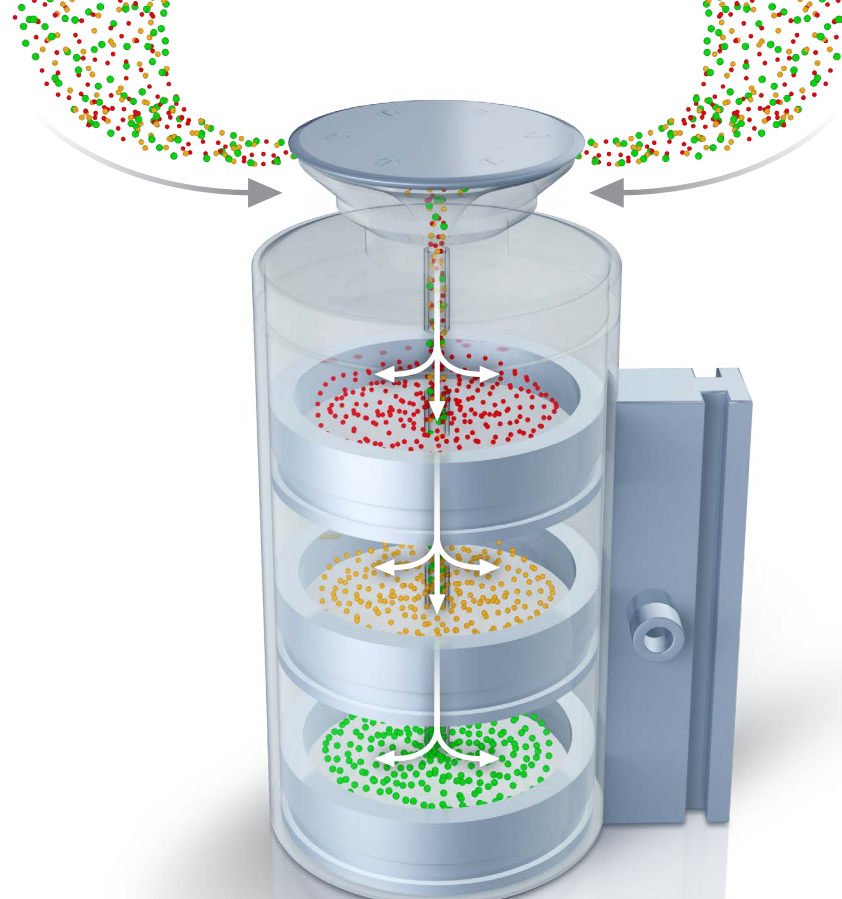
Fine-dust concentrations still pose a significant hazard in workplace atmospheres. This motivated the drastic reduction of TRGS 900 concentration limits in 2014 and, thus, necessitates dust monitors with increased sensitivities.

In cooperation with the German Institute of Workplace Safety (IFA, Sankt Augustin) and the Fraunhofer Institute for Toxicology and Experimental Medicine (ITEM, Hanover), Hund has developed the combined gravimetric-photometric dust monitor Respicon 2 TM which meets the higher sensitivity demands. For the measurement of higher dust concentrations, the Respicon TM is available.

The online dust monitor Respicon (2) TM is an attractive alternative to purely gravimetric systems. These may deliver precise results, their evaluation, however, is time-consuming and sophisticated.

### Main features and benefits

- Simultaneous online measurement of all 3 relevant dust fractions:
  - Inhalable dust
  - Thoracic dust
  - Respirable dust
- Simple calibration of the results
- Comfortable operation via touchscreen (data logger)
- Straightforward evaluation with PC software



### Which specifications do Respicon TM/ Respicon 2 TM meet?

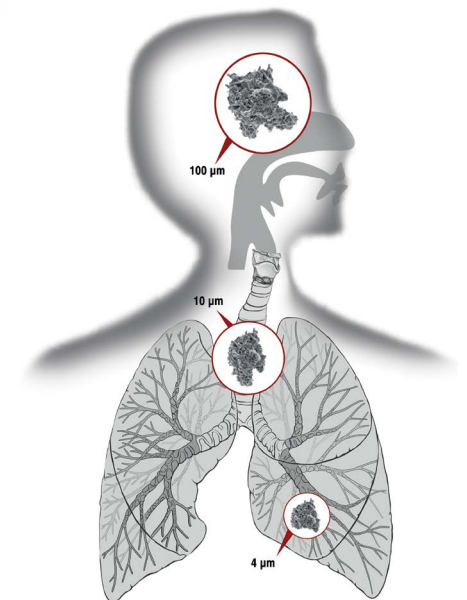
The separation characteristics of the three stages correspond to EN 481 – which makes the instrument a model for the separation characteristics of the human respiratory tract. Thus, the Respicon TM has been a proven tool for workplace monitoring for years. With higher sensitivity and sampling flow rate, the Respicon 2 TM facilitates the measurement of even small mass concentrations in accordance with the new limits as documented in TRGS 900.

### Application examples for the personal dust monitor

- Construction sites
- Handling of bulk goods
- Wood processing
- Concrete production
- Production of injection-moulding parts
- Mining
- Welding fume

### How does the Respicon TM/Respicon 2 TM work?

The Respicon TM/Respicon 2 TM contains three internal stages, separated by virtual impactors. Each of the three stages carries a filter on which the respective dust fraction is collected. After gravimetric determination of the collected dust masses, the included evaluation software calculates the concentrations of the inhalable, thoracic and respirable dust fractions. In addition, the included scattered-light photometers provide time-resolved concentration measurements.



### What are the main components of a complete monitoring system?

A complete Respicon TM/Respicon 2 TM system requires:

- the Respicon TM/Respicon 2 TM sampler
- a sampling pump
- the data logger DALO with cable set
- the PC software for data transfer and evaluation

### Are there any accessories available?

- inlet head for total volume flow measurement
- insert for the measurement of partial volume flows
- leather carrying case for data logger DALO
- transport case for complete system