



## Quick and Easy Dust Measurements

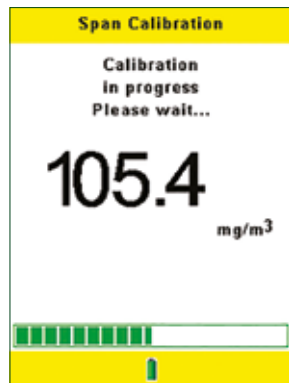
The Microdust Pro can be used for spot checks and walk-through surveys with the advantage of seeing instantly when and where excessive dust levels are occurring. The Microdust Pro is incredibly easy to use with a simple interface. A user can be taking a measurement within seconds of starting the instrument.

An optical insert is used on site that provides a spot check of the instrument's calibration response. This is unique to the marketplace as no other device currently has this capability. The screens are colour coded to ease navigation, once a measurement is started they turn green (shown below) or red when stopped. When taking a measurement, real-time instantaneous and average levels are shown and subsequently stored to the memory for review later.

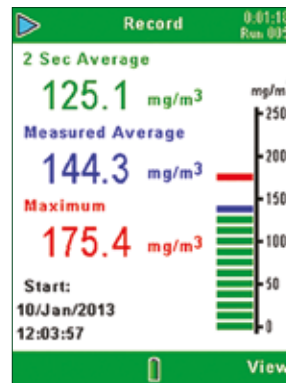
### 3 easy steps to taking a measurement



**Step 1:** Switch the Microdust Pro on



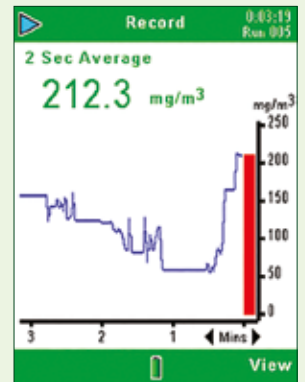
**Step 2:** Calibrate in 1 button press



**Step 3:** Press play key to start a measurement



Multi-lingual Interface



Real-time graphical dust display

## On-Site Calibration

The instrument is factory calibrated using a method traceable back to isokinetic techniques and is conducted in a custom-built wind tunnel using ISO 12103-1 A2 Fine test dust (Arizona road dust equivalent). Each probe is also supplied with its own unique Calibration Insert, which creates a known optical scattering effect in the probe's sampling chamber. This fixed reference can be used to confirm the original factory calibration point, although annual factory recalibration is recommended.

Whilst the Microdust Pro comes factory calibrated, by using an optional TUFF Air Sampling Pump and gravimetric adaptor, user-defined dust-type settings may be obtained. This means that the user can calculate a correction factor for the actual type of dust being measured and ensures maximum accuracy for their particular application.



On-site calibration device

Measurement Settings	
Particle Type	Factor
Default	1.000 ✓
User 1	1.000
User 2	1.000
User 3	1.000
User 4	1.000
Range	Auto
Display Averaging	2 Secs
Logging Interval	1 Mins
Synchronise Log. Time	X

Press ▶ to Select Particle

Exit Edit

Single setup screen



Gravimetric calibration to calibrate for specific dusts



## Dust Detective

For site operators and managers who have a requirement for area monitoring, the Dust Detective is an ideal survey tool, which is quick to assemble, easily deployed and provides data which can be downloaded for evaluation and reporting purposes. The unit uses a Microdust Pro real time dust monitor, TUFF air sampling pump and operates off internal batteries for up to 13 hours.

Both gravimetric and real-time dust data can be obtained, and foam inserts can also be used which allow size selection of  $PM_{10}$ ,  $PM_{2.5}$  and respirable fractions to be taken.

- Gravimetric & real-time dust data
- Ideal for site surveys
- Ease of operation
- Operates up to 13 hours
- Samples for  $PM_{10}$ ,  $PM_{2.5}$  and respirable fractions
- Individual instruments can be removed and utilised separately
- No external power supply required
- Ideal for remote locations
- Indoor/Outdoor applications



## Accessories

A number of accessories are available for use with the Microdust Pro. The size selective adaptor can be used in conjunction with an air sampling pump and PUF filters, such that the real time measurement will be of the required size fraction of dust. If just gravimetric calibration is required then the gravimetric adaptor can be used with an air sampling pump.

The Dust Detective can be bought as a complete kit or if a Microdust is already owned, the individual items can be purchased separately.



Size selective adaptor



Gravimetric Adaptor



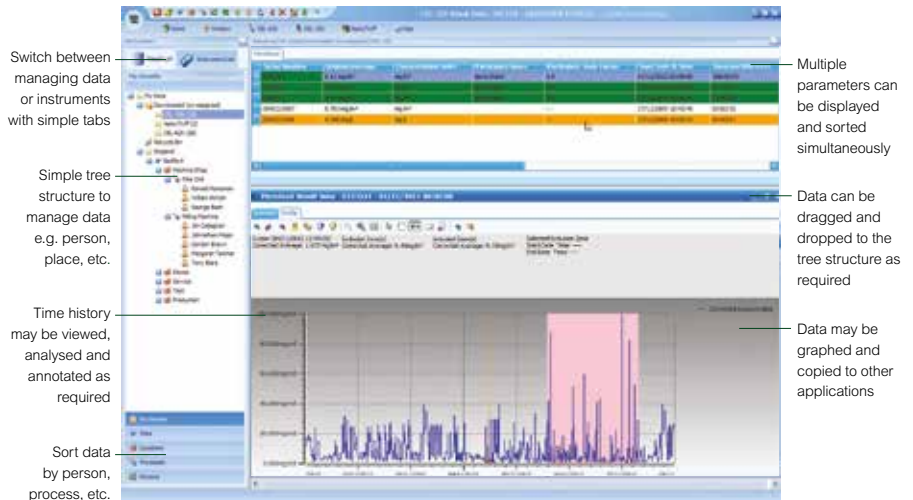
Dust Detective environmental enclosure

## Casella Insight Data Management Software

The Microdust Pro can be downloaded to Casella Insight Data Management Software using the USB cable provided. Once downloaded, the time history of the dust level can be displayed and analysed as necessary, so the times and extent of particularly 'dusty' events can be seen.

Measurements can be stored in relation to the person or area they were measured and reports can be produced showing the relevant data for multiple people or places as required.

## CASELLA INSIGHT



## Technical Specification

### General

Measuring range: 0.001mg/m<sup>3</sup> - 250,000 mg/m<sup>3</sup>  
 Zero stability: < 2ug/m<sup>3</sup>  
 Batteries: 3 x AA  
 External power: 12VDC (via -PC18 supply)  
 Logging interval: 1 sec to 60 minutes  
 Communication: Mini B USB  
 Size (instrument): 172 x 72 x 33mm (6.8 x 2.8 x 1.3")  
 Size (probe): 35 x 205mm (1.4 x 8.1")  
 Tripod mount: 1/4" Whitworth  
 Resolution: 0.001mg/m<sup>3</sup>  
 Operating temp: 0 - 55°C  
 Battery run time: Approx 13 hours  
 Weight: < 600g including batteries (<22oz)  
 Memory: 86,000 data points (500 measurement runs)  
 Analogue output: 0 - 2.5V DC FSD  
 Alarm output: Switched open drain <15V & 500mA DC

## Ordering Information

Part number CEL-712/K1: Instrument kit contains CEL-712 Microdust Pro, calibration insert, cleaning bellow, USB cable, 3 x AA batteries, Insight Data Management Software, instruction manual (on flash memory drive) and field guide. All housed in a briefcase style lockable case.

## Optional Accessories

206101B Gravimetric adaptor  
 206102B Size selective adaptor (requires PUF filters)  
 P118204 PUF filters for PM2.5 (Pack 10)  
 P118208 PUF filters for respirable (Pack 10)  
 P118206 PUF filters for PM10 (Pack 10)  
 P314221 Tuff 4 Plus I.S. Sampling Pump with Charger  
 PC18 Universal power supply  
 CMC51 USB download cable\*  
 CEL-6718 Lightweight tripod  
 196030C Briefcase style lockable case\*  
 206105D Dust Detective Environmental enclosure  
 (order CEL-712/K1 and pump separately)

\*included with instrument kit

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