

TROLEXK

XKD ONE

HSE TESTING

THE FINDINGS

**LEADING
SAFETY
TECHNOLOGY**

INTRO

The Health and Safety Executive (HSE) is a UK government agency responsible for the encouragement, regulation and enforcement of workplace health, safety and welfare, and for research into occupational risks in Great Britain.

The HSE carried out a series of tests on 3x Trolex XD One units comparing them to the following: Casella CEL-712 Microdust Pro, a Thermo Scientific MIE Personal DataRam (pDR) 1500, a TSI SidePak AM510.

Key elements of the tests:

- ▶ Tests were carried out in a calm air chamber.
- ▶ The tests used Arizona Road Dust, the industry standard for accuracy measurements and calibration.
- ▶ Fixed Concentration tests were performed at $2\text{mg}/\text{m}^3$, $5\text{mg}/\text{m}^3$ and $11\text{mg}/\text{m}^3$.
- ▶ Stepped Concentration tests were performed moving from $2\text{mg}/\text{m}^3$ to $5\text{mg}/\text{m}^3$ and finally to $11\text{mg}/\text{m}^3$.
- ▶ Simultaneous readings were taken using laboratory grade gravimetric sampling (TIOM and GK 2.69) to provide baseline accurate data from which to compare the portable units.

CRITICAL MESSAGES

The following are the critical messages that we can take from the tests:



The XD One performs as well as or better than the rival products in accurately monitoring for respirable dust (PM4.25) at typical concentrations found in a workplace (up to $5\text{mg}/\text{m}^3$ and below).

(It is worth noting that EH40 (the official HSE reference document on Workplace Exposure Limits) allows a maximum of $4\text{mg}/\text{m}^3$ exposure at any time – i.e. between the low and medium concentrations used in the tests, so these are the concentrations that matter in terms of real-world monitoring).



The tests found that the XD One's performance was consistent between the XD One units demonstrating that the good performance was consistent and repeatable.



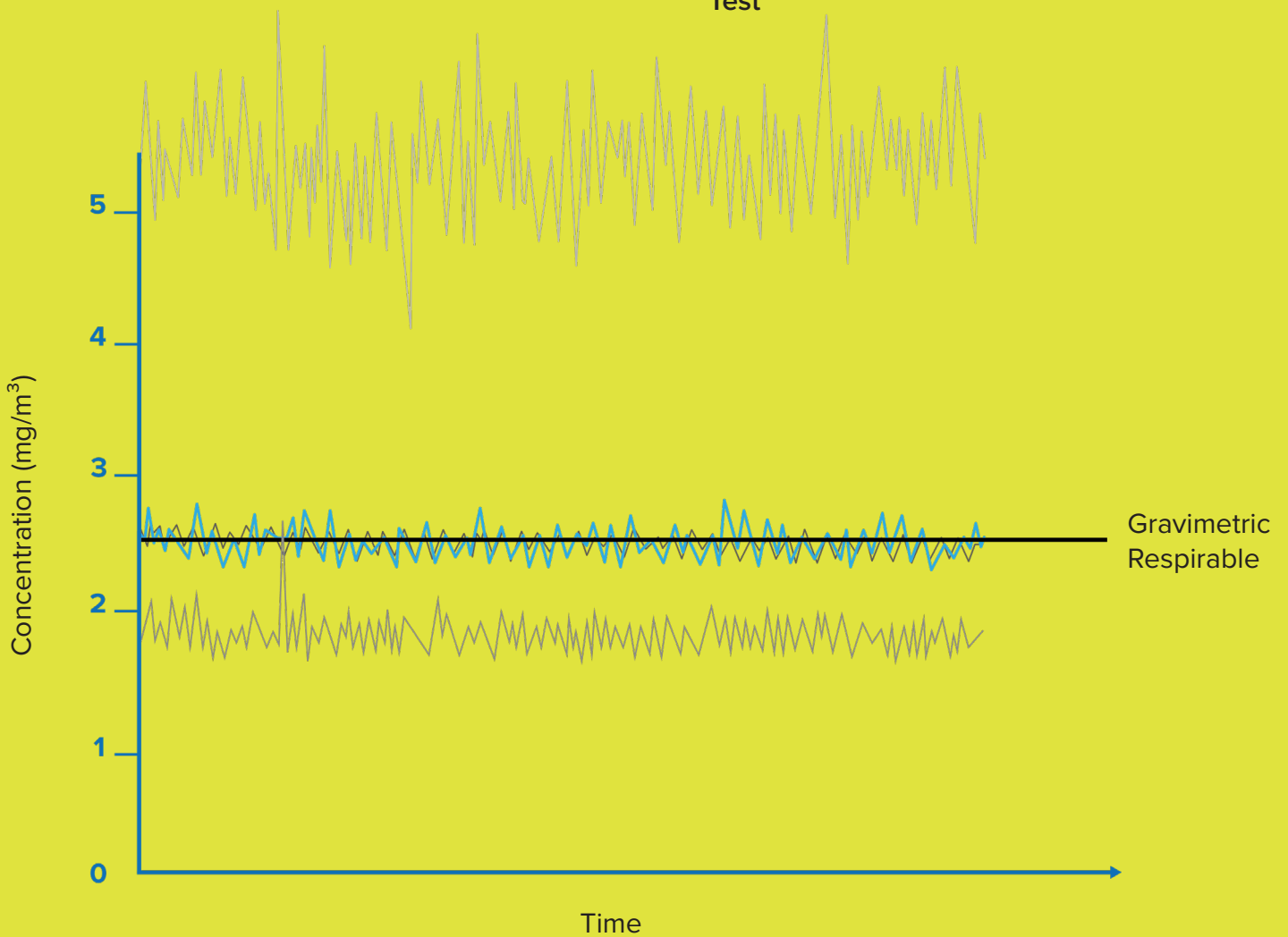
The XD One was consistent with laboratory grade gravimetric sampling units (the current industry standard, and often regulated methodology) at the tested dust levels.



The XD One also performed as well or better than competitor products in 'stepped-tests' where the dust concentration was changed over time. All results up to $5\text{mg}/\text{m}^3$ (more than the HSE Guideline exposure limit) show a positive and accurate relationship with the current gravimetric standard.

TEST RESULTS

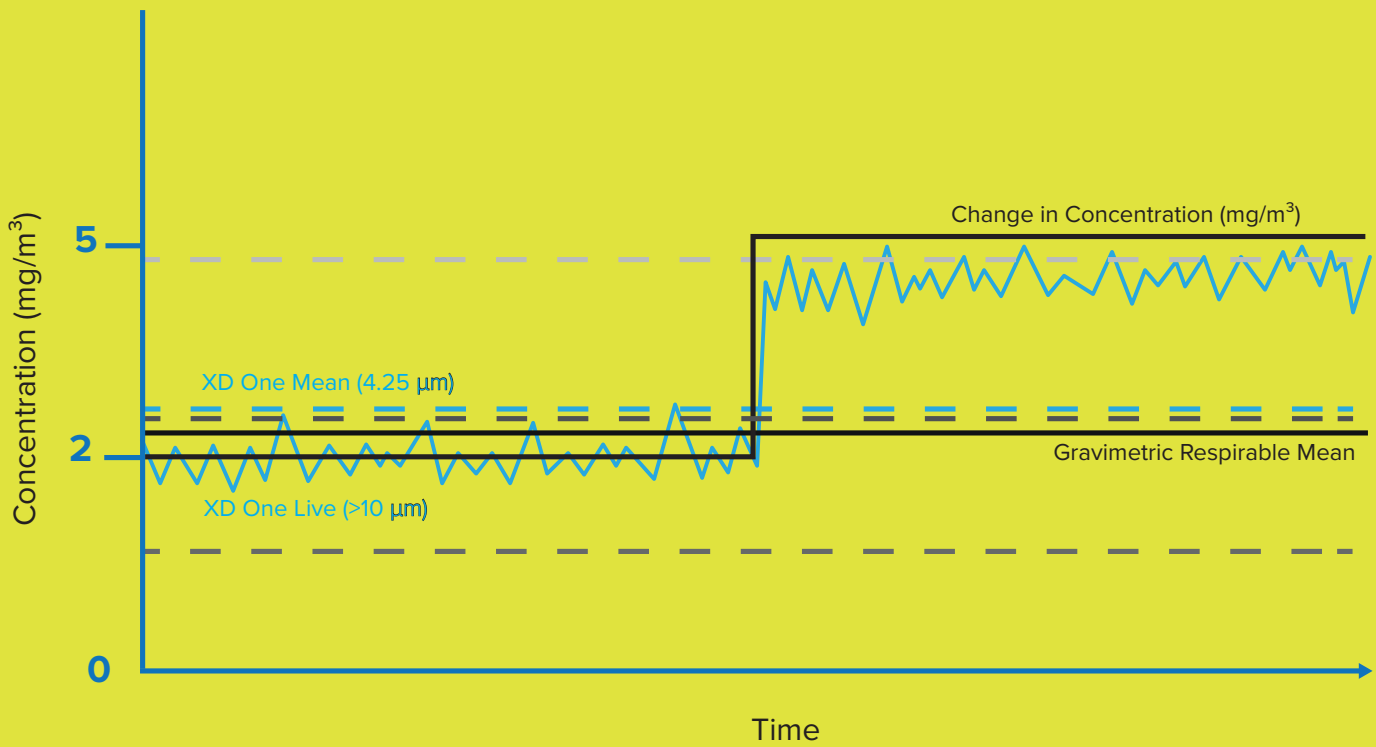
Respirable Dust (PM4.25) Fixed Concentration Test



- Trolex XD One
- Casella Microdust Pro
- ThermoScientific pDR-1500
- TSI Sidepak

Along with the pDR-1500, the XD One displayed a very high degree of accuracy at 2.5mg/m³ concentration.

Respirable Dust (PM4.25) Stepped Concentration Test



- Trolex XD One
- Casella Microdust Pro
- ThermoScientific pDR-1500
- TSI Sidepak

XD One demonstrates high trending accuracy in changing concentrations and a strong correlation to the gravimetric respirable mean. Other units do not have live readings and therefore only report one respirable mean.

COMPETITIVE ADVANTAGES OF THE XD ONE

In addition to out-performing the competitor units, the XD One has the following advantages over other products involved in the tests:



It is smaller, lighter, less fiddly, and a single self-contained unit.



It is a low-cost solution.



It is easy to use – put it on, switch it on, and go.



It has virtually zero maintenance vs regular (usually daily) complicated filter replacements, pump replacements, return-to-base annual calibrations, and often many other routines and processes.



It provides real-time alerts based on legislative norms.

Why does the Trolex XD One stand out from competitors?

	Trolex XD One	Casella Microdust Pro	ThermoScientific pDR-1500	TSI Sidepak
Replaceable filter	No	Yes	Yes	Yes
Replaceable pump	No	Yes	Yes	Yes
Calibrate before each use	No	Yes	Yes	Yes
Annual return-to-base	No	Yes	Yes	Yes
Multiple replacement parts	No	Yes	Yes	Yes
Start-up in 5 seconds	Yes	No	No	No
Dynamic real-time concentration	Yes	No	No	No
Self-contained unit	Yes	No	No	No

At Trolex, we save lives.

We believe that no person should risk their life to earn a living.

Our aim is to become the world's leading name in health and safety technology, through pioneering products that provide real-world benefits to our customers, whenever workers operate in hazardous environments.

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