

## Introduction

The ImpactAir® range of microbial air samplers have been designed to meet the demanding requirements of the pharmaceutical, healthcare and specialist food industries, and are used for continuous monitoring in high-grade areas, where in-process sampling of viable particles can be critical and ISO 14698 must be satisfied.

The pharmaceutical industry strives to standardise methods across all of its processes but often it is difficult to find a single solution. ImpactAir has a modular design and can, using the same fundamental technology and performance validation, be adapted into a range of formats to suit the specific deployment needs.

Within the range are the following deployment options:

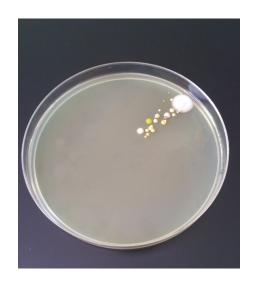


ImpactAir	Standalone, fully automatic, with touch screen user interface
ImpactAir ISO	Modular system, designed to integrate into Isolators and RABS, with external
	controllers and remotely located air mover

## **Technology**

Air is drawn at high speed through a very narrow inlet slit, whereupon particles, including microbes in the air, impact and stick onto an agar surface in a Petri dish.

The Petri dish is slowly rotated under the inlet, thus ensuring the air is always 'impacted' onto a fresh area of agar. This dramatically reduces the probability of 'twin impingement', a phenomenon where two microbes land at the same point and appear as a single colony when incubated, an issue often associated with sieve type samplers.



The ImpactAir range use 14 cm diameter Petri dishes which allow the system to sample for longer periods onto a single dish. The sampling time is programmable from minutes to many hours. With a deep fill agar plate it is possible to sample for several hours onto a single agar plate. Sampling 1m<sup>3</sup> of air is achieved in 35 minutes and 20 seconds with the flow rate of 1 cubic foot per minute.

With any impaction sampler, the distance between the inlet and the surface of the agar is critical and has a major effect on the sampling efficiency. The agar in Petri dishes is often not a constant depth so ImpactAir is the first sampler of its kind to employ precision sensing and control to automatically adjust the distance throughout an entire run to ensure a consistent d50 value is maintained. This is supported by results obtained from independent physical and biological validation carried out by Public Health England (PHE).



## Specification

Air flow	28.3 litres per minute (-0% to $+5$ %) $-1$ cubic foot per min
d50 Value	$<$ 0.5 $\mu$ m (100% efficient at 1 $\mu$ m)
Petri dish	14 cm TSA
Sample time	1 min to 4 hours (using deep fill agar plates)
Plate usage	1% to 100% in 1% increments
User interface	Touch screen LCD
Plate height adjustment	Fully automatic throughout entire run
Exhaust	Internal H14 HEPA filter or exhaust via tube
Flow control	Automatic
Validation	Physical & biological efficiency at PHE (UK Gov)
Construction	316 L Stainless Steel
Inlet	Bayonet fitting with range of standard adaptors
Communication	USB, CAT5
Portability	Integrated carry handle option
Air Mover MTBF	15,000 hours
Noise	65 dB
Power	100-250 V, 50-60 Hz, Less than 50 Watt
Weight	9.5 kg
Size	Width 200 mm x Depth 250 mm x Height 250 mm
Certification	CE (CB coming soon)
Vibration	Zero effect on 4 dp balance alongside sampler
Accessories (optional)	Trolleys, inlets, isokinetic probes, exhaust ducts, aseptic dish handling tools, agar plate lid holder.







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