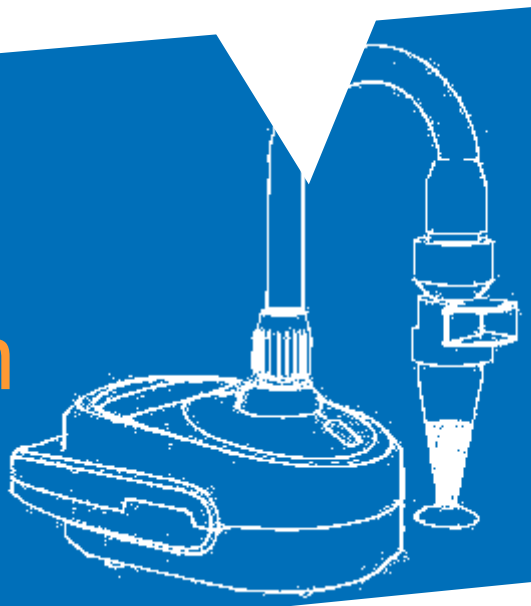
Mastering Innovation

Coriolis Air sampler for bio-contamination

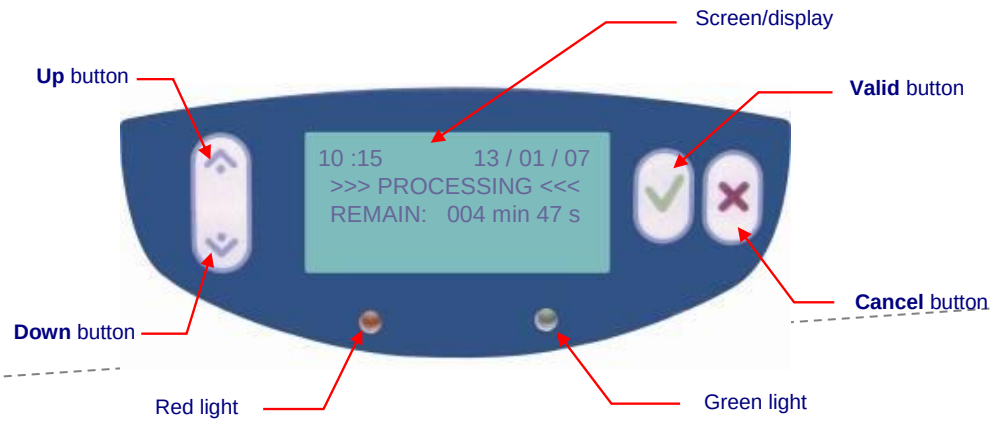


Ref: 04131-200-SL017

Coriolis® µ

www.coriolis-airsampler.com

- **Air sampler designed for clean rooms, hospital, indoor and outdoor air control**
  - High air flow rate: 100 – 300 L/min
  - Light: 3 kg
  - Collect viable, non cultivable and total flora, pollens, viruses…
  - Battery operating (1 hour of sampling)
  - Validated according to ISO 14698-1



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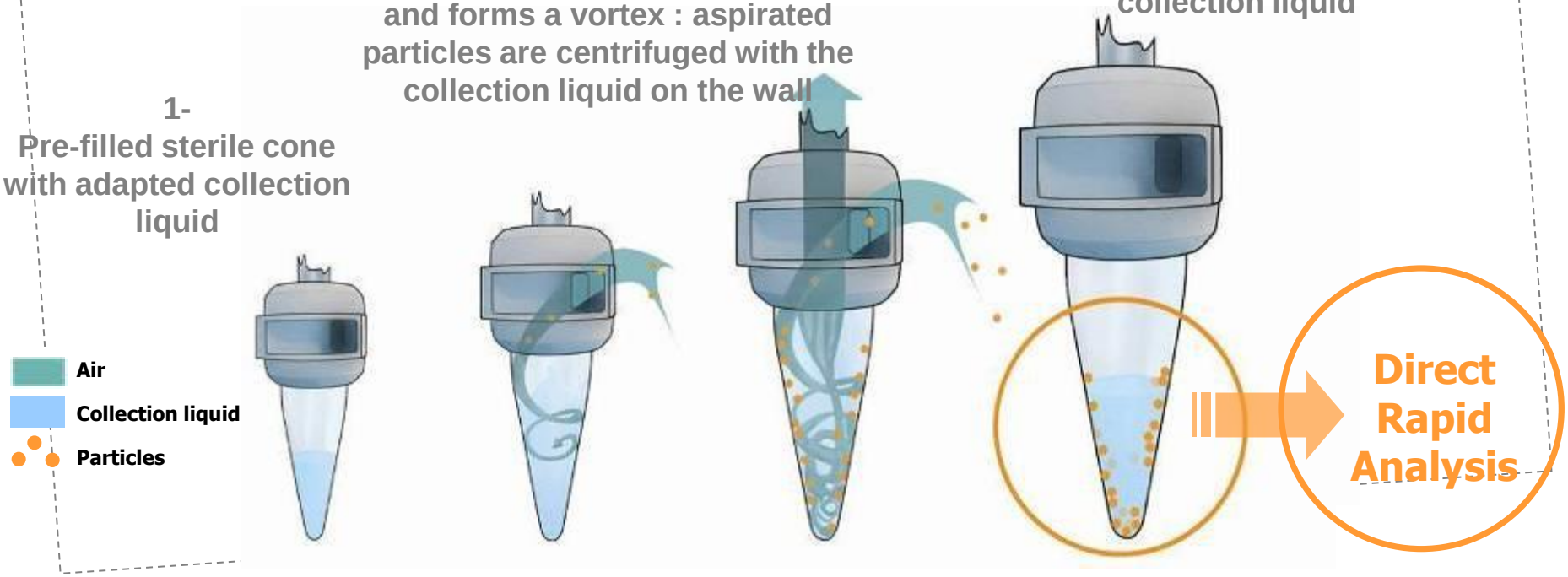
Air sampling technology

- Patented cyclonic technology concentrating particles from 0.5 to 20µm into a sterile liquid collection media
- Captures and concentrates all airborne particles (pollens, spores, bacteria, fungi, virus, allergens, endotoxines…)
- Qualified by independent agencies : HPA (UK)

1-
Pre-filled sterile cone with adapted collection liquid

2-
Air & particles enters in the cone and forms a vortex : aspirated particles are centrifuged with the collection liquid on the wall

3-
Particles are concentrated into the collection liquid



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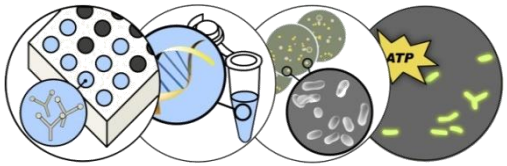
Focus on alternative method: cyclonic method

High air flow rate 300 l/min

A liquid sample output

- No saturation of the collection media for charged environment and for long time monitoring
- A divisible sample for several analysis in parallel Comparison with the impaction possible
- Several types of analyses (PCR, cytometry, immunoanalysis...)
  - Shorter response time
  - 3 hours protocol validated
- Contamination data beyond cultivable flora: VNC, Pollens, Allergens, Virus…



Rapid detection with Coriolis + RMM

Traditional method (culture): based on cultivability – several days for results

- Cytometry (ex: Scan RDI) : based on viability – 3 hours
- ATP Biolum (ex: Pallcheck) : based on viability – 3 to 24 hours
- ELISA/immunoassay : based on Ag/Ab – max 10 hours
- PCR : based on DNA or RNA – max 10 hours

- More reactivity
- More information
- More flexibility
- More expensive in terms of equipment
- Less expensive in terms of impact on production process

Coriolis consumables

1. Cones with caps (by 50) – 05237-1-003
2. Sterile cones with caps (by 50) – 05237-1-101
3. Collection liquid 15ml doses (by 50) – 05237-1-202

Expiration date : 5 years

Expiration date : 18months

Expiration date : 9months

Case Study : Airborne microbiological monitoring in a pharmaceutical production site

Coriolis® - Bertin Technologies

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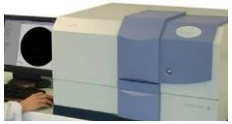
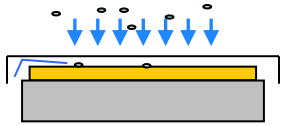


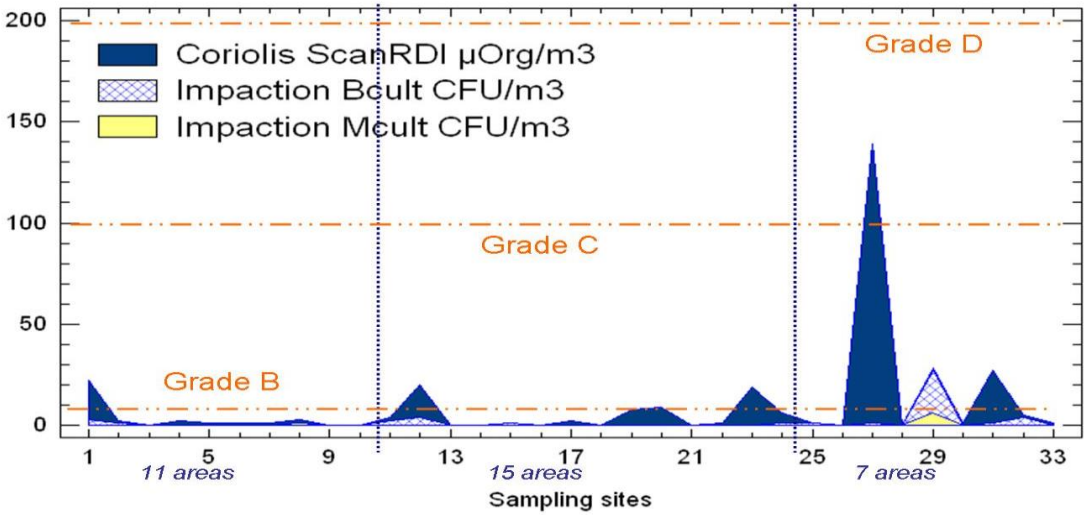
Chemscan RDI (Solid phase cytometry) – AES Chemunex

VS.



Impaction Method

22 cleanrooms in a pharma production site (B, C and D grades)



Coriolis®µ + ScanRDI® allowed a better representativeness of the airborne contamination. For D grade room which are the most contaminated rooms, Coriolis® provided an access to more exploitable results.

bertin TECHNOLOGIES

Mastering innovation

Long time monitoring option for Coriolis µ

Bertin Technologies, a company of CNIM Group

NEW in 2013
Long Time Monitoring option for Coriolis µ

- Bioaerosol samplings with Coriolis µ are limited to 10 minutes as evaporation naturally occurs during collection
- The long time monitoring option maintains a constant volume of collection liquid over the entire sampling period

- Main features
  - From 1 minute to 6 hours of collection
  - Automatic liquid injection (manually set)
  - Compatible with any Coriolis µ

- Provide new possibilities of investigation

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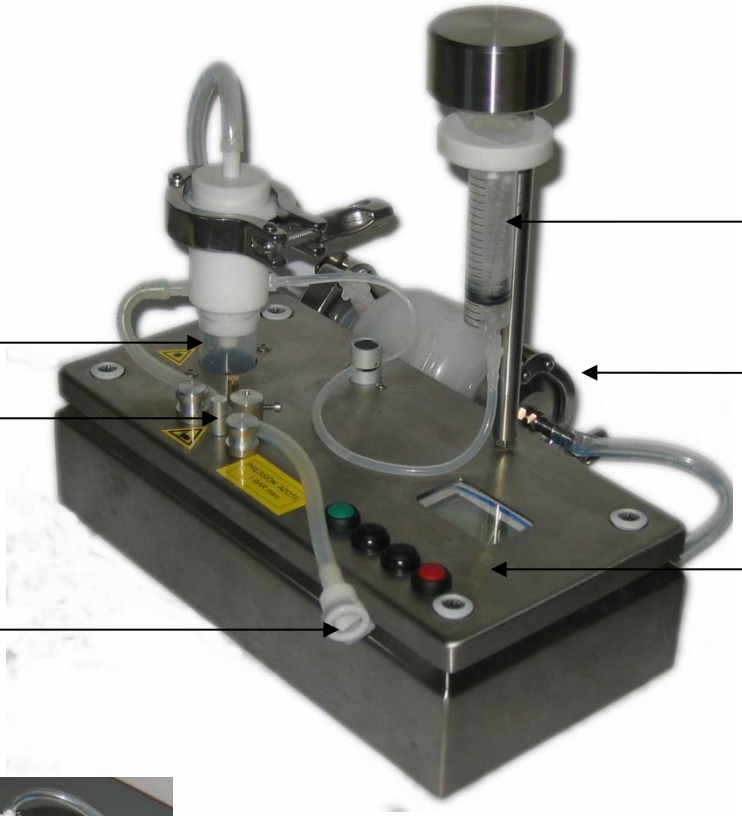
Compressed Gas Analysis with Coriolis Technology

Bertin Technologies, a company of CNIM Group

Coriolis compressed gas description prototype



Liquid for automatic liquid injection

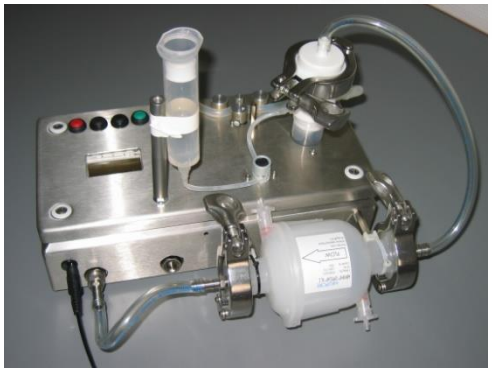
30mL cone with liquid

Filter

Automatic volume regulation

User interface
- Set volume to be sampled (10 – 10000 liters)
- follow process

Connection to gas network



View of the back

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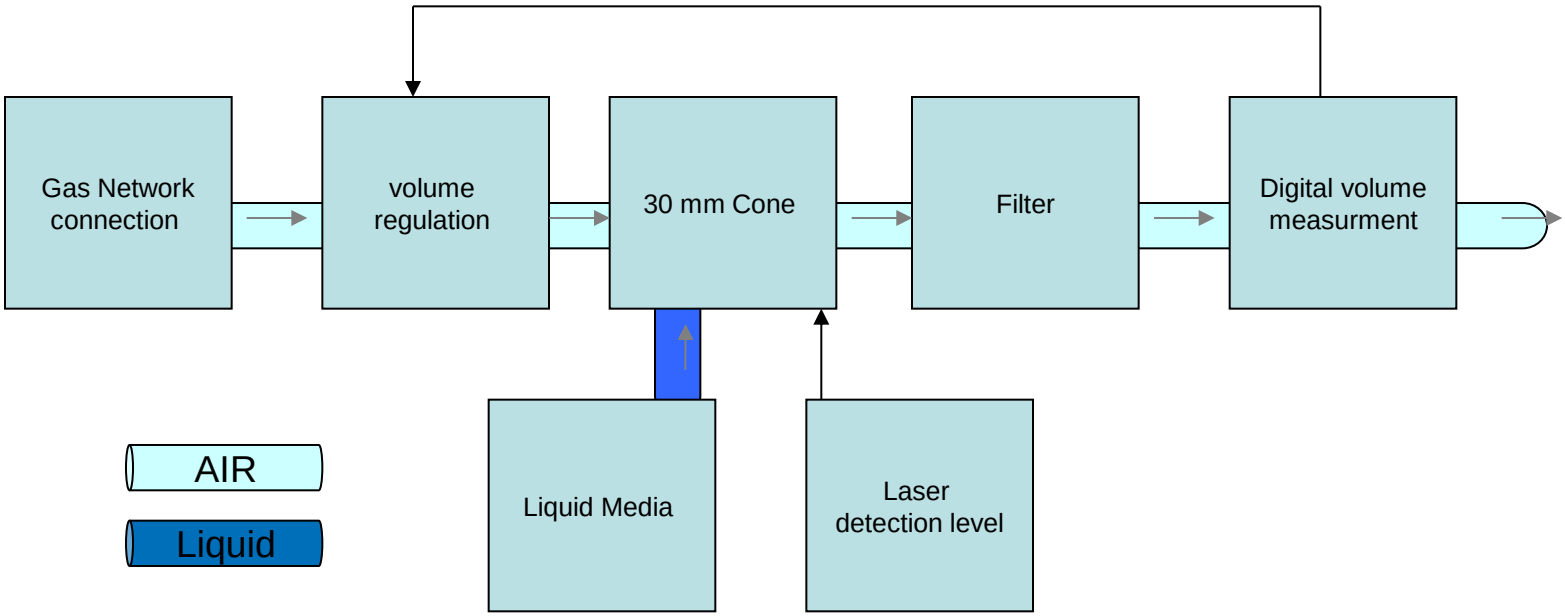
How does this work

- Automation of the collection
  - From 10 to 10,000 liters of compressed nitrogen
  - For 1 cubic meter, the process is approx 15 minutes



Wet cyclone technology

- Coriolis system for particle collection
  - 40 to 70 l/min
  - 10mL of liquid automatically refilled during process (level laser detection)

Specifications of prototype

Use parameters	
Flow rate of gas/air entrance into the Coriolis cone	40 to 70 l/min
Max pressure of gas/air entrance into the Coriolis cone	1 Bar
Sampling volume	10 – 10000 liters
Technical specifications	
Alimentation	100 - 230 V, 0,1A, 50 - 60 Hz
Consumption	20VA
Size & weight	
Large	300mm
Depth	250mm
Total high	350mm
Weight	5Kg
Use conditions	
Temperature	5-40°C
Gas temperature	5-40°C
Humidity	10-90 %
User interface	
Buttons	4 buttons: Valid / + / - / Cancel
Screen	LCD screen, 4 lines

Coriolis: the ideal tool for quality control

SAMPLING

✓Short time of collection (<5 min)
✓Liquid sampling
✓Validated efficiency

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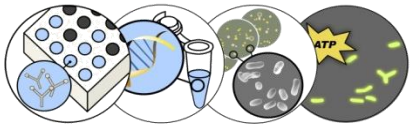
RMM



✓Culture techniques
✓RMM
✓PCR real time
✓LAL assay
✓Cytometry
✓ADNr16s fingerprint
✓Microarray
✓Microscopic obs.

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SOLUTION

✓ Rapid results
= rapid action

✓ Complete information
= more chance of detection

Mastering contamination control