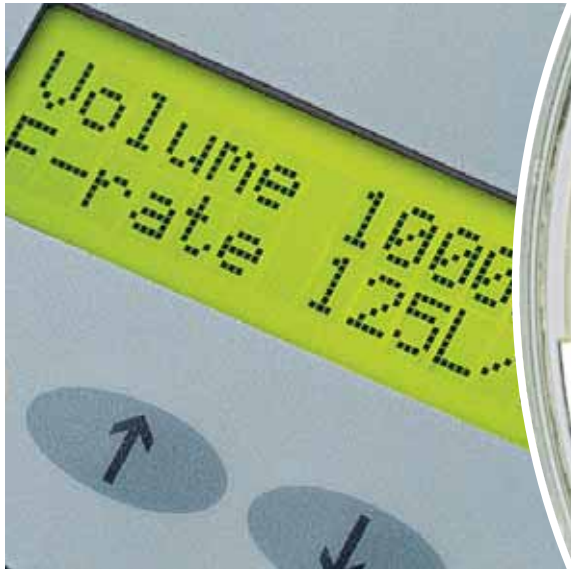
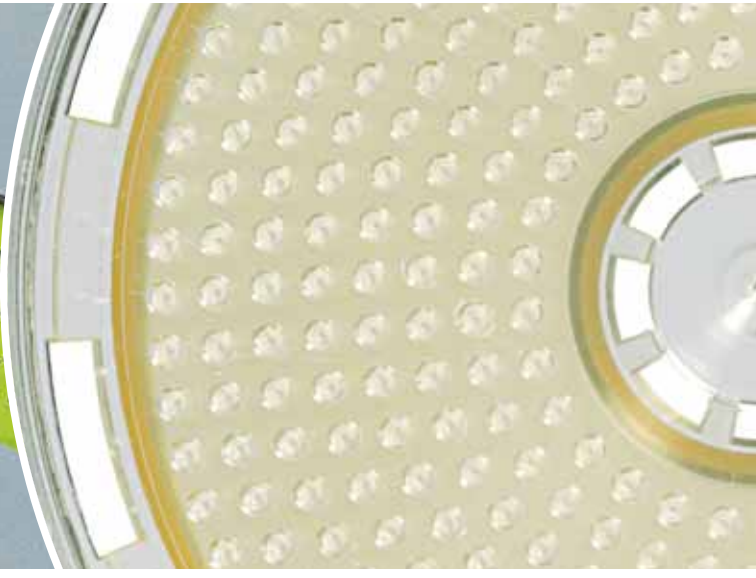
sartorius stedim biotech

BACTair™





turning science into solutions

Big Impact.
A New Impact for Microbiological Air Monitoring

As regulations become more stringent, the microbial monitoring of ambient air is increasing importance in today's world. For example, microorganisms can have a major impact on product quality and the production process, and can even pose health hazards.

Air quality plays a key role in the pharmaceutical, biotechnological and food and beverage industries, hospitals and in the field of occupational and environmental protection.

The most frequently used method today for sampling airborne microorganisms is based on the Andersen principle, which traps particles on culture media plate by impaction. In this method, air is suctioned through a sieve, accelerated and directed against a culture medium plate. Due to their inertia, airborne organisms are prevented from being swept away by the diverted stream of air and are impacted onto the culture medium plate. After sampling, the culture medium plate is incubated and the colonies grown are counted as colony-forming units/m^3 of air (cfu/m^3).

Sartorius Stedim Biotech has developed a new system for sampling airborne microorganisms that allows impaction onto culture media plates, where the plates function directly as collection heads. This means that the collection properties are integrated right into the culture media plates. Metal sieve plates or metal collection heads with slots, which have to be sterilized for routine samplings on a regular basis are eliminated. Now, non-sterile sieves or slots have become a thing of the past.

The geometry of the culture medium plate and the 400 holes in the sieve plate yield exceptional sampling efficiency, which is generally higher than that of other impaction samplers.

This new method uses the AirPort MD8 air sampler to pump the air stream.

BACTair™ culture media plates are ready-to-connect to the AirPort MD8

BACTair™ culture media plate prior sampling

Only 3 handling steps with BACTair™ provide you with an airborne microorganisms

1) Just connect your BACTair™ plate

2) Sample (Press START)

3) Remove your BACTair™ plate and incubate

BACTair™ Features	**BACTair™ Benefits**
– Gamma-sterile	– No sterilization required
– Integrated disposable sieve	– No handling of re-usable sieves
– Pre-filled with agar medium	– No preparation of media
– Individually packaged	– No desiccation effects
– Samples 1m^3 in just 8 min	– Fast sampling
– Optimized geometry	– High recovery efficiency (details on page 6)
– Filled with sufficient amount of media	– No effects due to evaporation (details on page 6)
– Protection with covers	– The agar surface is protected
And after incubation: – Optimized geometry	– No colony overlapping means no correction factor (details on page 6)
– No correlated sampling head	– No complicated correlation of sampling heads and devices

The detection of airborne microbial contamination has never been so easy and so reliable!

exceptional recovery of

BACTair™ saves your labor-time and guarantees reliable results:

Preparation- and sterilization-free procedure reduce the risk of secondary contamination.

Culture media plate properties are maintained from purchase through to sampling.

Detects total viable airborne microorganisms in a very short sampling time.

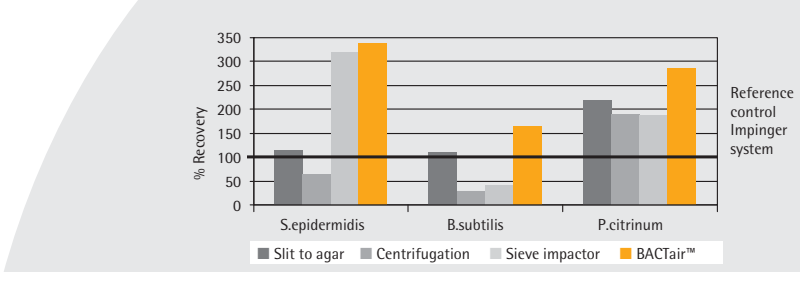
Easy handling with no risk of secondary contamination.

Results are easy to access and evaluate.

Makes your calibration and sampler management fast and easy.

BACTair™
culture media plate
after sampling
and incubation

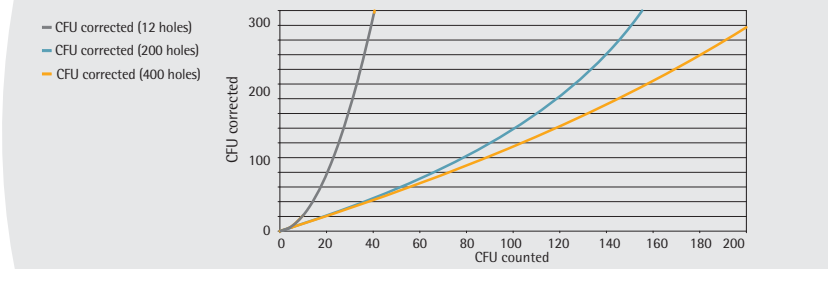
BACTair™ stands for optimized geometry



Recovery Comparison Study

Aerosols of three different bacteria suspensions are released into a sampling channel under defined conditions. At the end of the channel the aerosols are sampled using four different air monitoring methods.

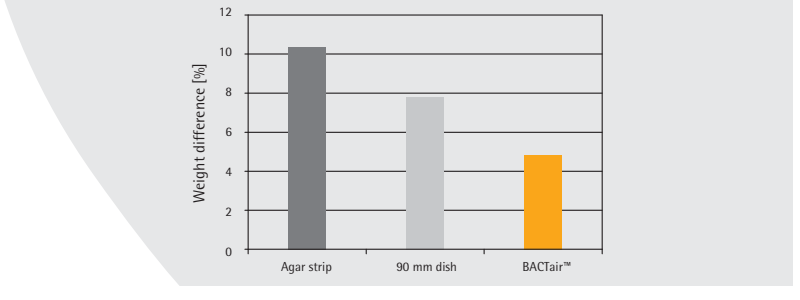
As a reference method two parallel impinger systems were used (100 % recovery). BACTair™ culture media plates show the highest recovery of bacteria due to optimized geometry and complete disposable design.



Correction Factors

The recovery of colony-forming units depends on the number of holes in the sieve plate onto which the air is impacted. The lower the number of holes, the higher is the risk that more than one microorganism will pass into one single hole (colony overlapping).

A correction factor (K) can be calculated mathematically: $K = x \cdot (\ln(x)-\ln(x-n))$
x = number of holes in the sieve plate
n = colony count.
BACTair™ culture media plates provide 400 air impaction holes. A correction factor is only relevant with very high CFU counts.



Evaporation Effects

During the sampling period, agar media may dry out, thus inhibiting the growth of the collected microorganisms. The weight of several BACTair™ culture media plates was measured prior to and after sampling and compared to other impaction agar plates or strips.

Because of its optimal design BACTair™ shows the lowest desiccation effects and enables viable microorganisms to grow under optimal conditions.

The number of impaction-holes and their optimal position in relation to the sampling area are the key to reliable results.

Ordering Information

Description	Order Number
BACTair™ Culture Media Plates	
BACTair™ – culture media plates Tryptic Soy Agar (TSA), 110 mm, individually, sterile packaged, 10 units	14320-110----ACD
BACTair™ – culture media plates Sabouraud agar (acc. USP), 110 mm, individually, sterile packaged, 10 units	14321-110----ACD
Other BACTair™ culture media types on request	
Air Sampler	
AirPort MD8 Air Sampler for BACTair™ culture media plates incl. charger	16757
Accessories	
Adapter for BACTair™ culture media plates on the AirPort MD8 air sampler	17803
Covers for BACTair™ culture media plates, 10 × 2 units individually, sterile packaged	1ZPX-D0002

Sales and Service Contacts

For further contacts, visit www.sartorius-stedim.com

Europe

Germany
Sartorius Stedim Biotech GmbH
August-Spindler-Strasse 11
37079 Goettingen

Phone +49.551.308.0
Fax +49.551.308.3289

www.sartorius-stedim.com

Sartorius Stedim Systems GmbH
Schwarzenberger Weg 73–79
34212 Melsungen

Phone +49.5661.71.3400
Fax +49.5661.71.3702

www.sartorius-stedim.com

France
Sartorius Stedim Biotech S.A.
ZI Les Paluds
Avenue de Jouques – BP 1051
13781 Aubagne Cedex

Phone +33.442.845600
Fax +33.442.845619

Sartorius Stedim France SAS
ZI Les Paluds
Avenue de Jouques – CS 71058
13781 Aubagne Cedex

Phone +33.442.845600
Fax +33.442.846545

Austria
Sartorius Stedim Austria GmbH
Franzosengraben 12
A-1030 Vienna

Phone +43.1.7965763.18
Fax +43.1.796576344

Belgium
Sartorius Stedim Belgium N.V.
Leuvensesteenweg, 248/B
1800 Vilvoorde

Phone +32.2.756.06.80
Fax +32.2.756.06.81

Denmark
Sartorius Stedim Nordic A/S
Hoerskaetten 6D, 1.
DK-2630 Taastrup

Phone +45.7023.4400
Fax +45.4630.4030

Italy
Sartorius Stedim Italy S.p.A.
Via dell'Antella, 76/A
50012 Antella-Bagno a Ripoli (FI)

Phone +39.055.63.40.41
Fax +39.055.63.40.526

Netherlands
Sartorius Stedim Netherlands B.V.
Edisonbaan 24
3439 MN Nieuwegein

Phone +31.30.6025080
Fax +31.30.6025099

Spain
Sartorius Stedim Spain SA
C/Isabel Colbrand 10,
Oficina 70
Polígono Industrial de Fuencarral
28050 Madrid

Phone +34.90.2110935
Fax +34.91.3589623

Switzerland
Sartorius Stedim Switzerland GmbH
Lerzenstrasse 21
8953 Dietikon

Phone +41.44.741.05.00
Fax +41.44.741.05.09

U.K.
Sartorius Stedim UK Limited
Longmead Business Park
Blenheim Road, Epsom
Surrey KT19 9 QQ

Phone +44.1372.737159
Fax +44.1372.726171

America

USA
Sartorius Stedim North America Inc.
5 Orville Drive
Bohemia, NY 11716

Toll-Free +1.800.368.7178
Fax +1.631.254.4253

Sartorius Stedim SUS Inc.
1910 Mark Court
Concord, CA 94520

Phone +1.925.689.6650
Toll Free +1.800.914.6644
Fax +1.925.689.6988

Sartorius Stedim Systems Inc.
201 South Ingram Mill Road
Springfield, MO 65802

Phone +1.417.873.9636
Fax +1.417.873.9275

Argentina
Sartorius Argentina S.A.
Int. A. Avalos 4251
B1605ECS Munro
Buenos Aires

Phone +54.11.4721.0505
Fax +54.11.4762.2333

Brazil
Sartorius do Brasil Ltda
Av. Dom Pedro I, 241
Bairro Vila Pires
Santo André
São Paulo
Cep 09110-001

Phone +55.11.4451.6226
Fax +55.11.4451.4369

Mexico
Sartorius de México S.A. de C.V.
Circuito Circunvalación Poniente No. 149
Ciudad Satélite
53100 Naucalpan, Estado de México

Phone +52.5555.62.1102
Fax +52.5555.62.2942

Asia | Pacific

Australia
Sartorius Stedim Australia Pty. Ltd.
Unit 5, 7-11 Rodeo Drive
Dandenong South Vic 3175

Phone +61.3.8762.1800
Fax +61.3.8762.1828

China
Sartorius Stedim Beijing
Representative Office
No. 33, Yu'an Road,
Airport Industrial Zone B, Shunyi District
Beijing 101300

Phone +86.10.80426516
Fax +86.10.80426580

Sartorius Stedim Shanghai
Represantative Office
Room 618, Tower 1, German Centre,
Shanghai, PRC., 201203

Phone +86.21.28986393
Fax +86.21.28986392.11

Sartorius Stedim Guangzhou Office
Room 704, Broadway Plaza,
No. 233–234 Dong Feng West Road
Guangzhou 510180

Phone +86.20.8351.7921
Fax +86.20.8351.7931

India
Sartorius Stedim India Pvt. Ltd.
#69/2-69/3, Jakkasandra
Kunigal Road, Nelamangala Tq
Bangalore – 562 123

Phone +91.80.4350.5361
Fax +91.80.4350.5253

Japan
Sartorius Stedim Japan K.K.
KY Building, 8–11
Kita Shinagawa 1-chome
Shinagawa-ku
Tokyo 140-0001

Phone +81.3.3740.5407
Fax +81.3.3740.5406

Malaysia
Sartorius Stedim Malaysia Sdn. Bhd.
Lot L3-E-3B, Enterprise 4
Technology Park Malaysia
Bukit Jalil
57000 Kuala Lumpur

Phone +60.3.8996.0622
Fax +60.3.8996.0755

Singapore
Sartorius Stedim Singapore Pte. Ltd.
10, Science Park Road, The Alpha
#02-25, Singapore Science Park 2
Singapore 117684

Phone +65.6872.3966
Fax +65.6778.2494

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