

# VWR<sup>®</sup> Surface Air System (SAS) monitoring instruments

01. ENVIRONMENTAL  
HEALTH AND AIR  
QUALITY

02. COMPLETE RANGE  
OF SAS MODELS

03. A COMPLETE RANGE  
OF CONTACT PLATES  
AND PETRI DISHES



# Table of contents

Environmental health  
and air quality  
**Page 3**

Complete range of  
SAS models  
**Pages 4-5**

SAS Super ISO and  
SAS Super ISO 180  
**Pages 6-7**

Duo SAS Super 360  
**Pages 8-9**

SAS Super IAQ  
**Pages 10-11**

SAS Super Isolator  
**Pages 12-13**

SAS Super Pinocchio II  
**Page 14**

A complete range of contact  
plates and Petri dishes  
**Pages 15-17**

Contact-Weight  
microbiological surface  
sampler  
**Page 18**

eCount™ colony counter  
**Page 19**



# Environmental health and air quality

Many industries including pharmaceutical and food companies, hospitals, schools and workplaces in general need to determine the level of environmental microbial contamination. This helps provide protection for both product quality and the health of workers in accordance with International Standards (e.g. Pharmacopoeia, Good Manufacturing Practices and ISO) and guidelines. Since the 1980's the SAS (Surface Air System) has been considered a reference instrument for portable air microbiological samplers.

- U.S. Pharmacopeia chapter 1116 describes the Surface Air System sampler as 'Methodology and instrumentation for qualification of viable airborne microorganisms'
- International space agencies have been using the SAS system on board the orbital station for monitoring microbiological environment
- SAS instruments are used every day in the most important pharmaceutical industries all around the world

## VWR IS ABLE TO OFFER CUSTOMERS A COMPLETE PACKAGE FOR MICROBIOLOGICAL SAMPLING OF SURFACES AND AIR

- Air samplers for applications based on active air sampling, accommodating one or two plates with culture medium
- Ready to use contact plates or Petri dishes, for sampling surfaces or air in combination with specific SAS instruments
- Contact-Weight standardises microbiological control of surfaces with contact plates

## SAS A FLEXIBLE SYSTEM

Specific models are designed to be used in cleanrooms classified according to ISO 14644-1, other instruments are available for open areas not classified by HACCP controls, for SBS (Sick Building Syndrome) investigations or for the control of air conditioning HVAC (Heating Ventilation Air Conditioning).

A dedicated range of VWR media for environmental control is available in ready to use Petri dishes or contact plates for the implementation of microbiological monitoring of surface and air control in any environment. Empty or ready to use Petri dishes and contact plates are packed appropriately for classified, controlled, ambient or occasional samples in different environments offering a cost effective sampling programme.

## AN OPEN SYSTEM

The same instrument can be used with standard 55 mm contact plates or with traditional 90 mm Petri dishes using simple accessories.

Specific models only for Petri dishes or contact plates are also available.

- Use the same kind of contact plate for air and surface sampling
- Applicable to cGLP and cGMP air sampling operations
- Appropriate for establishing data on a microbial level in selected environments
- Organise sequential sampling to obtain a more representative air sample under actual operating conditions



# Surface Air System (SAS)

## SAS SUPER ISO 100 AND SAS SUPER ISO 180

Directly derived from the SAS instrument used on the 'International Space Station', the SAS Super ISO 100 and SAS Super ISO 180 have been specifically designed for pharmaceutical and hospital sectors. Portable and easily positioned, they operate with long life rechargeable batteries. SAS Super ISO 100 and SAS Super ISO 180 are differentiated by differences in constant airflow (100 l/min and 180 l/min respectively); this choice depends on the application and allows continuous or sequential sampling from a few minutes to several hours. Both models provide facilities for data management of different implemented sampling programmes. The data can be stored on the SAS instrument itself or on any remote PC.



## DUO SAS SUPER 360

When environmental contamination is very low, and the number of samples to be performed is high, operational duration can be an important factor in the choice of SAS instrument. Two sampling heads that operate simultaneously to sample 1000 l of air in less than 3 minutes is the solution. The simultaneous sampling on two heads also allows you to obtain statistically representative results when using the same type of media for both plates. It is also possible to use two different media for the same sampling cycle (e.g. TSA or PCA for Total Bacterial Count and SDA for yeasts and moulds). Sampling on the two heads can halve sample process time, which is a real advantage for busy users.



## SAS SUPER IAQ

Designed specifically for general Indoor and Outdoor Air Quality control, this SAS instrument is lightweight and durable to operate in any situation. Ideal for environmental control in food industries, water treatment plants (outdoor application) and for use by environmental hygienists. The SAS IAQ is fully equipped with remote control and carrying case.



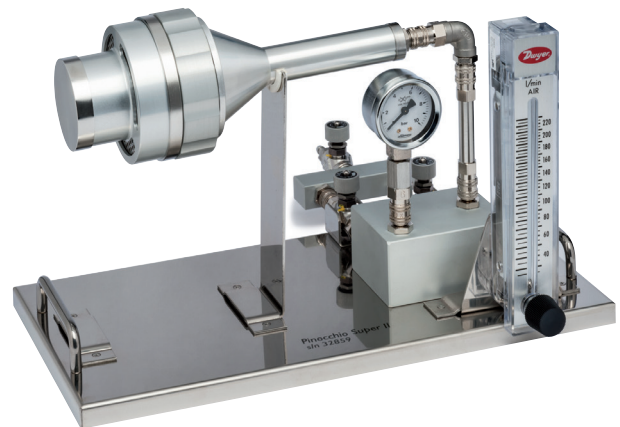
### SAS SUPER ISOLATOR

SAS Super Isolator instruments (available with airflows of 100 l/min and 180 l/min) have been created for the specific monitoring of the closed environments of isolators Restricted Access Barriers Systems (RABS), ensuring their complete separation from outside influences. The SAS instrument control unit is placed outside and connected to the aspirating head using a simple electrical connection. All possible typical contamination sources of the vacuum sampling system are removed using the SAS Super Isolator. An interesting application of this air sampler is that several heads can be controlled by a single SAS control unit providing a practical and economical solution.



### SAS SUPER PINOCCHIO II

The microbiological testing of compressed gas requires dedicated instruments other than normal air samplers. SAS Super Pinocchio II is specifically designed for this application, simplifying this activity as much as possible. A practical advantage of using the SAS Super Pinocchio II is that the instrument requires no external power supply because, controlled by the pressure of a gas line, it conveys the same gas on the agar plate playing the 'impact on agar' approach described in chapter 1116 of the U.S. Pharmacopoeia. SAS Super Pinocchio II is the ideal instrument for all areas requiring microbiological testing of compressed gases.



# Air samplers for clean rooms and sterile areas

The microbiological air sampler created for pharmaceutical companies and hospitals.

## SAS SUPER ISO 100 AND 180

### TYPICAL APPLICATIONS

Control and validation of cleanrooms, isolators, restricted access barriers (RABS), microbiological laboratories, biotechnology premises and vaccine production plants including operator safety.

Ideal for control of environmental contamination in operating theatres, hospitals and clinics.

### PERFORMANCE

- Compliant with USP chapter 1116 and ISO 14698-1
- Up to 70.000 litres of air with up to 300 memorised sampling cycles
- Sampling rate accurately maintained by speed sensor
- Design avoids turbulence in unidirectional airflow and re-aspiration of tested air in accordance with ISO specifications
- Provides total traceability - IQ OQ PQ validation protocols available
- Automatic reminder in case of expired calibration
- 8 pre-fixed modifiable sampling configurations

### DATA TRANSFER

- Sampling data can be downloaded on a PC in both non modifiable or Excel formats
- Infrared transfer of sampling data to PC



Choose between aluminium, stainless steel or resin plastic sterile irradiated heads

Pyramid shape for stability

Large LCD illuminated touch screen command panel - easy to use, easy to clean



**SAS SUPER ISO IS THE FASTEST 'IMPACT TO AGAR' AIR SAMPLER ON THE MARKET**

## ACCESSORIES

	Single-use heads for air samplers Cat.No. 710-0891				
	Adapter for Petri dishes Ø 90 mm Cat.No. 710-0882				
	Battery charger with interchangeable plug, 90 – 260 V Cat.No. 710-0973				
	Infrared remote control Cat.No. 710-0969				

## TECHNICAL SPECIFICATIONS

Approx. sampling time for sampling 1000 l	6 min with SAS ISO 180 10 min with SAS ISO 100
Powered to ensure a full day of sampling	Operates from mains
Battery life	70.000 l (SAS ISO 100) 40.000 l (SAS ISO 180)
Power	8,4 V - 2,7 amp/h
Size	120x125x275 mm
Weight	1800 g

## REFERENCES

1. USP chapter 1116 'Microbiological evaluation of cleanrooms and controlled environments'
2. EU guide for GMP - 'Manufacture of sterile medicinal products control medicines and inspection'
3. ISO Standard 14698-1 - 'Cleanrooms and associated controlled environments biocontamination control - Part 1: General principles and methods'
4. FDA - '2004 guidance for industry on sterile drug products by aseptic processing - Pharmaceutical current good manufacturing practice'

SAS Super ISO without aspirating head and battery charger	Cat.No.	MEL.No.
SAS Super ISO 100 for contact plates	710-0871	PBIB86279
SAS Super ISO 100 for Petri dishes	710-0869	PBIB90719
SAS Super ISO 180 for contact plates	710-0872	PBIB86834
SAS Super ISO 180 for Petri dishes	710-0870	PBIB90720
<b>Accessories</b>		
Battery charger with universal plug for both models (this is mandatory for the correct functioning of this instrument)	710-0973	PBIB89130
Soft carrying case	710-0896	PBIB18143
Aluminium carrying case	710-1697	PBIB88713
Stainless steel tripod for cleanroom	710-0889	PBIB90724
SAS-Holder table and wall stainless steel	710-0963	PBIB20914
Adapter* to convert contact plate model to accept 90 mm Petri dishes	710-0882	PBIB42804
SAS stainless steel Petri head + aluminium adapter	710-0877	PBIB19119
SAS aluminium Petri head + adapter	710-0879	PBIB19117
IQ OQ PQ validation protocols for SAS Super ISO 100 and 180	710-0956	PBIB20094
SAS software for downloading data from SAS Super ISO (to use with interface)	710-0970	PBIB89320
Interface for SAS software for SAS Super ISO	710-0971	PBIB89321
Infrared remote control for SAS Super ISO	710-0969	PBIB89170

\* An aspirating head for 90 mm Petri dishes has to be used with this adapter.

Aspirating heads	Cat.No.	MEL.No.
<b>For contact plates, Ø 55 mm</b>		
Stainless steel	710-0880	PBIB15503
Aluminium	710-0892	PBIB15931
Sterile daily heads	710-0890	PBIB86996.A
<b>For Petri dishes, Ø 90 mm</b>		
Stainless steel	710-0878	PBIB23236
Aluminium	710-0886	PBIB34494
Sterile daily heads	710-0891	PBIB91214.A

# Air samplers for quick sampling in clean rooms and sterile areas

The only portable microbiological air sampler with two aspirating heads.

Suitable for use in all fields of application.

## DUO SAS SUPER 360

### TYPICAL APPLICATIONS

Control and validation of cleanrooms, isolators, RABS microbiological laboratories, biotechnology premises, vaccine production plants, operating theatres, hospitals and clinics. In particular, DUO SAS Super 360 is used when saving time is an important criteria.

### PERFORMANCE

- Compliant with USP chapter 1116 and ISO 14698-1
- IQ OQ PQ validation protocols available
- Over 40.000 l of air
- Up to 100 memorised sampling cycles
- Design avoids turbulence in unidirectional airflow and re-aspiration of tested air in accordance with ISO specifications
- Total traceability
- Fingertip calibration system control without opening the instrument
- Easy calibration monitoring

### DATA TRANSFER

- Can be downloaded onto a PC in both non modifiable (.sas) and Excel formats
- Sampling data to PC



**DUO SAS 360 CAN REDUCE SAMPLING TIME BY UP TO 70%!**



## ACCESSORIES



## TECHNICAL SPECIFICATIONS

Airflow rate	180 l/min
Sampling head	Aluminium, stainless steel or plastic (certified ready to use)
WxDxH	260x110x352 mm
Weight	2,2 kg

For a complete system - please order the sampler you require, a battery charger and the appropriate head.

DUO SAS Super 360 without aspirating head and battery charger	Cat.No.	MEL.No.
For contact plates	710-0867	PBIB24584-A
For Petri dishes	710-0866	PBIB90718
<b>Accessories</b>		
Battery charger with universal plug (this is mandatory for the correct functioning of this instrument)	710-0993	PBIB78636
Soft carrying case	710-0888	PBIB25094
Aluminium carrying case	710-0876	PBIB86751
Stainless steel tripod for cleanroom	710-0889	PBIB90724
SAS-Holder table and wall stainless steel	710-0963	PBIB20914
Adapter* for Petri dishes, Ø 90 mm (only for Duo SAS Super 360 for contact plates)	710-0882	PBIB42804
SAS stainless steel Petri head + aluminium adapter	710-0877	PBIB19119
SAS aluminium Petri head + adapter	710-0879	PBIB19117
IQ OQ PQ validation protocols for Duo SAS Super 360	710-0957	PBIB20095
SAS software for downloading data for Duo SAS Super 360 (to use with interface)	710-0975	PBIB89996.B
Interface cable for software for Duo SAS Super 360	710-0964	PBIB26025
Infrared remote control for Duo SAS Super 360	710-0962	PBIB18950-A

\* An aspirating head for 90 mm Petri dishes has to be used with this adapter.

Aspirating heads	Cat.No.	MEL.No.
<b>For contact plates, Ø 55 mm</b>		
Stainless steel	710-0880	PBIB15503
Aluminium	710-0892	PBIB15931
Sterile daily heads	710-0890	PBIB86996.A
<b>For Petri dishes, Ø 90 mm</b>		
Stainless steel	710-0878	PBIB23236
Aluminium	710-0886	PBIB34494
Sterile daily heads	710-0891	PBIB91214.A

## WHY USE THE DUO SAS?

- Use different media in each head to capture different microorganisms
- Use the same media in each head for greater confidence
  - TSA plates on left and right aspirating heads to calculate an average result and to obtain a more reliable and realistic number of Colony Forming Units (CFU)
  - TSA plates on left and right aspirating heads to monitor a higher volume of air in cleanrooms (360 l/min)
  - TSA plates on left and right aspirating heads to reduce operator time during air monitoring (about 3 min for 1000 l of air)
  - TSA or PCA plates on left aspirating head and SDA plate on right for a simultaneous double control of Total Bacterial Count and yeast/moulds

## REFERENCES

1. USP chapter 1116 'Microbiological evaluation of cleanrooms and controlled environments'
2. ISO Standard 14698-1 - 'Cleanrooms and associated controlled environments contamination control - Part 1: General principles and methods'
3. FDA - '2004 guidance for industry on sterile drug products by aseptic processing - Pharmaceutical current good manufacturing practice'
4. ACGIH - 'Guideline for assessment of bioaerosol in the indoor environment'

# Air samplers for controlled environment different than sterile areas

The microbiological air sampler created for control in the food industry, water treatment plants and environmental health.

## SAS SUPER IAQ

### TYPICAL APPLICATIONS

- Agro-Food - dairy technologists for control in food production environments with the aim to increase shelf life of products and for HACCP (Hazard Analysis Critical Control Point) applications
- Environmental health for the control of SBS (Sick Building Syndrome) and HVAC (Heating Ventilation Air Conditioning) studies
- Suitable for environmental control in water treatment plants (outdoor application) to ensure the safety of people working or living near treatment areas

### PERFORMANCE

- Supplied complete with aluminium head (contact or Petri), battery charger, remote control and transport case
- Airflow rate 100 l/min
- Programmable volume of aspirated air from 1 to 1999 l
- Sampling cycle record
- Delay start
- Digital visual display with indication of number of l/min air, date, operator and location

### DELIVERY INFORMATION

Supplied with aluminium aspirating head for Petri dishes (Ø 90 mm) or contact plates (Ø 55 mm), battery charger, remote control and soft carrying case.



Choose between aluminium or resin plastic sterile irradiated heads

Robust construction for use in industrial environments

Pyramid shape for stability

Operator commands through touch keypad for easy cleaning



**SAS SUPER IAQ IS EASY TO USE  
BASIC INSTRUMENT**

## ACCESSORIES



Single-use heads for air samplers  
Cat.No. 710-0891



Adapter for Petri dishes Ø 90 mm  
Cat.No. 710-0882



Universal battery charger  
Cat.No. 710-0993



Telescopic floor tripod, extendable up to 2800 mm high  
Cat.No. 710-1857



Stainless steel holder for table and wall  
Cat.No. 710-0963



Lightweight aluminium carrying case  
Cat.No. 710-1697



Soft carrying case  
Cat.No. 710-0896

## TECHNICAL SPECIFICATIONS

Sampling time	300 l in 3 min
Long battery life	8 hours of use without risk of sampling breaks
High sampling autonomy	70.000 l batteries recharged
Power	8,4 V - 2,7 amp/h
Size	105x110x290 mm
Weight	1750 g

SAS Super IAQ air sampler - supplied with 220 V battery charger, aluminium head, remote control and transport case	Cat.No.	MEL.No.
SAS Super IAQ for contact plates	710-0868	PBIB90593
SAS Super IAQ for Petri dishes	710-0919	PBIB90723
<b>Accessories</b>		
Aluminium carrying case	710-0875	PBIB20153
Telescopic tripod	710-1857	PBIB5215.P
SAS-Holder table and wall stainless steel	710-0963	PBIB20914
Additional battery charger with universal plug	710-0993	PBIB78636
Adapter* for Petri dishes, Ø 90 mm (only for SAS Super IAQ for contact plates)	710-0882	PBIB42804
SAS aluminium Petri head + aluminium adapter	710-0879	PBIB19117
Aluminium aspirating head for contact plates, Ø 55 mm	710-0892	PBIB15931
Sterile daily head for contact plates, Ø 55 mm	710-0890	PBIB86996.A
Sterile daily head for Petri dishes, Ø 90 mm	710-0891	PBIB91214.A
SAS aluminium head for Petri dishes, Ø 90 mm	710-0886	PBIB34494

Aspirating heads	Cat.No.	MEL.No.
<b>For contact plates, Ø 55 mm</b>		
Aluminum	710-0892	PBIB15931
Sterile daily heads	710-0890	PBIB86996.A
<b>For Petri dishes, Ø 90 mm</b>		
Aluminium + adapter	710-0879	PBIB19117
Aluminium	710-0886	PBIB34494
Sterile daily heads	710-0891	PBIB91214.A

\* An aspirating head for 90 mm Petri dishes has to be used with this adapter.

# Air samplers for isolators

The microbiological air sampler created for the control in isolators and RABS in pharmaceutical and food companies and in hospital environments.

## SAS SUPER ISOLATOR

### TYPICAL APPLICATIONS

Control and validation of isolators, RABS and closed systems for drugs, food and beverage production. Several aspirating chambers can be controlled by a single SAS control unit providing a practical and economic solution.

It consists of a programmable unit which remains outside the controlled area which uses 55 mm contact plates or standard 90 mm Petri dishes.

### PERFORMANCE

- Compliant with USP chapter 1116 and ISO 14698-1
- Up to 70.000 litres of air with up to 300 memorised sampling cycles
- Sampling rate accurately maintained by speed sensor and can be positioned anywhere inside the isolator or RABS
- Compatible with the most common sanitising and sterilising agents used inside isolators such as VHP (Vaporised Hydrogen Peroxide)
- Design avoids turbulence in unidirectional airflow and re-aspiration of tested air in accordance with ISO specifications
- Provides total traceability - IQ OQ PQ validation protocols available
- Automatic reminder in case of expired calibration
- 8 pre-fixed modifiable sampling configurations

### DATA TRANSFER

- Special connections for isolators available on request





## ACCESSORIES

	Single-use heads for air samplers Cat.No. 710-0891		SAS software for downloading data from SAS Super Isolator Cat.No. 710-0975		Lightweight aluminium carrying case Cat.No. 710-1697
	Adapter for Petri dishes Ø 90 mm Cat.No. 710-0882		Battery charger with universal plug Cat.No. 710-0993		
	Additional aspirating chamber Cat.No. 710-0947 Cat.No. 710-0948		Infrared remote control Cat.No. 710-0962		

## TECHNICAL SPECIFICATIONS

Model	SAS Super Isolator 100	SAS Super Isolator 180	Duo SAS Super 360 Isolator
Airflow rate	100 l/min	180 l/min	2x180 l/min
Sampling head	Stainless steel	Stainless steel	Stainless steel
WxDxH	105x110x290 mm	105x110x290 mm	360x160x180 mm
Weight	1,75 kg	1,75 kg	2,1 kg

## REFERENCES

- ISO Standard 14698-1 - 'Cleanrooms and associated controlled environments biocontamination control - Part 1: General principles and methods'
- USP chapter 1116 - 'Microbiological evaluation of cleanrooms and controlled environments'
- EU guide for GMP - 'Manufacture of sterile medicinal products control medicines and inspection'

For a complete system - please order the sampler you require, a battery charger and the appropriate head.

An adapter is required when using heads for Petri dishes (90 mm) with samplers for contact plates (55 mm). Sets including a head for 90 mm Petri dishes and the required adapter are available.

Model without aspirating head and battery charger	Cat.No.	MEL.No.
SAS Super Isolator 100 for contact plates	710-0943	PBIB43216-B
SAS Super Isolator 100 for Petri dishes	710-0945	PBIB43218-B
SAS Super Isolator 180 for Petri dishes	710-0946	PBIB43219-B
SAS Super Isolator 180 for contact plates	710-0944	PBIB43217-B
Duo SAS 360 Isolator for contact plates	710-0977	PBIB91746
Duo SAS 360 Isolator for 90 mm Petri dishes	710-0978	PBIB91796
<b>Accessories</b>		
Battery charger with universal plug (this is mandatory for the correct functioning of this instrument)	710-0993	PBIB78636
Adapter* for Petri dishes, Ø 90 mm (only for SAS Super Isolator for contact plates)	710-0882	PBIB42804
Aluminium carrying case	710-1697	PBIB88713
Additional aspirating chamber for contact plates (without aspirating head)	710-0947	PBIB87085
Additional aspirating chamber for Petri dishes (without aspirating head)	710-0948	PBIB88826
IQ, OQ, PQ manual for SAS Super Isolator	710-0954	PBIB20096
Infrared remote control for SAS Super Isolator	710-0962	PBIB18950-A
Interface for SAS Isolator software	710-0964	PBIB87491
SAS software for downloading data from SAS Super Isolator (to use with interface)	710-0975	PBIB89996.B

\* An aspirating head for 90 mm Petri dishes has to be used with these adapters.

Aspirating heads	Cat.No.	MEL.No.
<b>For contact plates, Ø 55 mm</b>		
Stainless steel	710-0880	PBIB15503
Aluminium	710-0892	PBIB15931
Sterile daily heads	710-0890	PBIB86996.A
<b>For Petri dishes, Ø 90 mm</b>		
Stainless steel	710-0878	PBIB23236
Aluminium	710-0886	PBIB34494
Sterile daily heads	710-0891	PBIB91214.A

# Air sampler for compressed gases

The microbiological air sampler created to test the microbiological quality of compressed air and gases used in cleanrooms.

## SAS SUPER PINOCCHIO II

### TYPICAL APPLICATIONS

SAS Super Pinocchio II has been created for the microbiological control of air and other compressed gases used in the pharmaceutical and food industries plus other critical fields. The compressed gas is connected directly to the instrument.

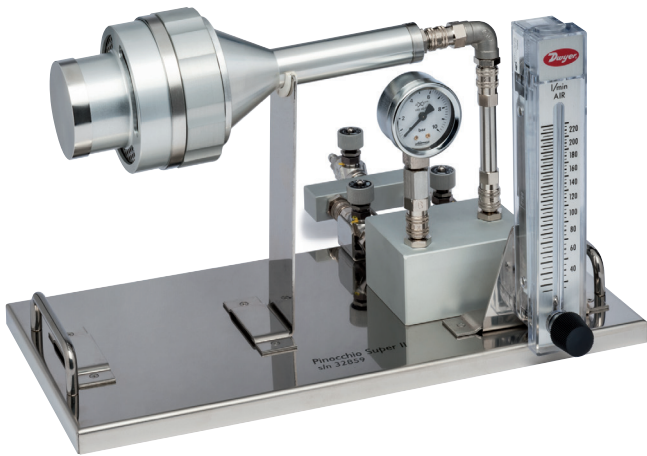
A compressed air source is connected to the SAS Super Pinocchio Super II system and the flow meter regulates the required flow rate, e.g.: 100 l of air/min. The sampling period is timed to obtain the required total sample volume, e.g. 1000 l.

### PERFORMANCE

- Autoclavable
- Calibrated according to International Standards
- IQ OQ PQ validation protocols available
- Standard Operating Procedure (SOP) available
- Unit requires no power and is fully transportable
- Can collect air samples either on contact plates or standard 90 mm Petri dishes

### DELIVERY INFORMATION

Self-contained unit, consisting of connections, airflow meter, pressure gauge, tap, and funnel head complete with plate housing.



### TECHNICAL SPECIFICATIONS

Airflow rate	100 l/min
Material	Stainless steel
Max. temperature	40 °C
WxDxH	400x200x245 mm
Weight	2 kg

SAS Super Pinocchio II with carrying case	Cat.No.	MEL.No.
SAS Super Pinocchio II for contact plates	710-0949	PBIB39089
SAS Super Pinocchio II for Petri dishes	710-0950	PBIB35026
SAS Super Pinocchio II for contact plates with calibrated flow meter	710-0951	PBIB89218
SAS Super Pinocchio II for Petri dishes with calibrated flow meter	710-0955	PBIB89219
Accessories		
IQ-OQ-PQ manual	710-0976	PBIB20097

INCLUDED  
Pinocchio Super  
aluminum  
carrying case



Pinocchio aluminum  
carrying case  
Cat.No. 710-0972

# A complete range of contact plates and Petri dishes

Ideal for monitoring the microbiological contamination of surface and air inside cleanrooms, isolators, RABS, food industries and hospitals. The triple wrapping ensures that the package itself doesn't contaminate the environment as the first wrapper is removed just before entering the clean area.

## CONTACT PLATES OR PETRI DISHES?

The choice of both plate type and media is key to meet the requirements of the most important Pharmacopoeias, ISO norms and cGMP. Petri dishes are used as 'settle plates' to examine how many microorganisms land on surfaces and measured by leaving an open Petri plate on the surface for 1-4 hours. Contact plates are used to take a direct sample of the surface as the agar touches the surface.

Contact plates also offer the advantage that you can use the same kind of plates for both air and surface control. However, 90 mm Petri dishes give a bigger surface area for colony counting and are especially useful if the expected count on the plate is more than 100 Colony Forming Units.

All VWR contact plates and Petri dishes are available with neutralising agents (Tween, lecithin, histidine, thiosulphate) and with antibiotic neutralising agents (Penicillinase), to prevent underestimation of the microbial count.

- Manufactured under GMP, compliant with Pharmacopoeias and ISO regulations formulations
- Certificate of Irradiation and Growth Promotion test according to International Pharmacopoeias
- VHP resistance studies for the use inside isolators are available (please note that only the blister packaging is hydrogen peroxide resistant)
- Storage at room temperature (contact plate in blister) or between 2 and 14 °C

## REFERENCES

VWR International contact plates and Petri dishes for environmental control comply with the following International Standards:

1. USP chapter 1116 'Microbiological evaluation of cleanrooms and controlled environments'
2. EU Guide for GMP - 'Manufacture of sterile medicinal products control medicines and Inspection'
3. ISO Standard 14698-1 - 'Cleanrooms and associated controlled environments biocontamination control - Part 1: General principles and methods'
4. ISO 18593: 'Microbiology of food and animal feeding stuffs - Horizontal methods for sampling techniques from surfaces using contact plates and swabs'
5. ACGIH - 'Guideline for assessment of bioaerosol in the indoor environment'





### CONTACT PLATES IN BLISTER PACKS - TRIPLE WRAPPED

Triple wrapped sterile contact plates in blister packs allow you to use one single plate at a time whilst maintaining the packaging of all the other plates. This allows the use of all the plates until the end of their shelf life. Triple wrapped contact plates are packed in a blister with 6 single compartments (6x4 plates per packs).

#### CONTACT PLATES IN BLISTER FOR TOTAL BACTERIAL COUNT

Application fields: Pharmaceutical industries and hospitals, in compliance with EP, USP, ISO

55 mm contact plate media	Filling (ml)	Pk	Cat.No.	MEL.No.
Tryptic Soy Agar (TSA)	13	24	271114ZI	VWRC271114ZI
TSA with disinfectant neutralisers (Tween, lecithin, histidine, thiosulphate)	13	24	271114TI	VWRC271114TI
TSA with antibiotic and disinfectant neutraliser (Penase, Tween, lecithin, histidine, thiosulphate)	13	24	271114RY	VWRC271114RY

#### CONTACT PLATES IN BLISTER FOR YEAST AND MOULDS COUNT

Application fields: Pharmaceutical and food industries and hospitals, in compliance with EP, USP, EPA, ISO 4833 and ISO 18593

55 mm contact plate media	Filling (ml)	Pk	Cat.No.	MEL.No.
Sabouraud 4% dextrose agar (SDA)	13	24	270884ZI	VWRC270884ZI
Sabouraud 4% dextrose agar (SDA) with disinfectant neutraliser (Tween, lecithin, histidine, thiosulphate)	13	24	270884TI	VWRC270884TI

#### CONTACT PLATES IN BLISTER FOR TOTAL BACTERIAL COUNT

Application fields: Food industries in compliance with EPA, ISO 4833 and ISO 18593

55 mm contact plate media	Filling (ml)	Pk	Cat.No.	MEL.No.
PCA	13	24	270774ZI	VWRC270774ZI
PCA with disinfectant neutraliser (Tween and lecithin)	13	24	270774TI	VWRC270774TI



### CONTACT PLATES IN TRIPLE STERILE BAGS

For larger volume usage, contact plates are also available in bags. The same specifications apply to these plates as for the blister wrapped plates. Plates are packed 5 each in a plastic shrink wrapped pack. Each bag contains 2 packs (10 plates). The box contains 8 bags with a total of 80 plates.

#### CONTACT PLATES IN TRIPLE STERILE BAGS FOR TOTAL BACTERIAL COUNT

Application fields: Pharmaceutical industries and hospitals, in compliance with EP, USP, ISO

55 mm contact plate media	Filling (ml)	Pk	Cat.No.	MEL.No.
Tryptic Soy Agar (TSA)	13	80	141114ZI	VWRC141114ZI
TSA with disinfectant neutralisers (Tween, lecithin, histidine, thiosulphate)	13	80	141114TI	VWRC141114TI
TSA with antibiotic neutraliser (Penase)	13	80	141114PY	VWRC141114PY
TSA with antibiotic and disinfectant neutraliser (Penase, Tween, lecithin, histidine, thiosulphate)	13	80	141114RY	VWRC141114RY

#### CONTACT PLATES FOR YEAST AND MOULDS COUNT IN TRIPLE STERILE BAGS

Application field: Pharmaceutical and food industries plus hospitals, in compliance with EP, USP, EPA, ISO 4833 and ISO 18593

55 mm contact plate media	Filling (ml)	Pk	Cat.No.	MEL.No.
Sabouraud 4% dextrose agar (SDA)	13	80	140884ZI	VWRC140884ZI
Sabouraud 4% dextrose agar (SDA) with disinfectant neutraliser (Tween, lecithin, histidine, thiosulphate)	13	80	140884TI	VWRC140884TI
Rose Bengal chloramphenicol agar	13	80	140070ZI	VWRC140070ZI

#### CONTACT PLATES IN TRIPLE STERILE BAGS FOR TOTAL BACTERIAL COUNT

Application field: Food industries, in compliance with EPA, ISO 4833 and ISO 18593

55 mm contact plate media	Filling (ml)	Pk	Cat.No.	MEL.No.
PCA	13	80	140774ZI	VWRC140774ZI
PCA with disinfectant neutraliser (Tween and lecithin)	13	80	140774TI	VWRC140774TI





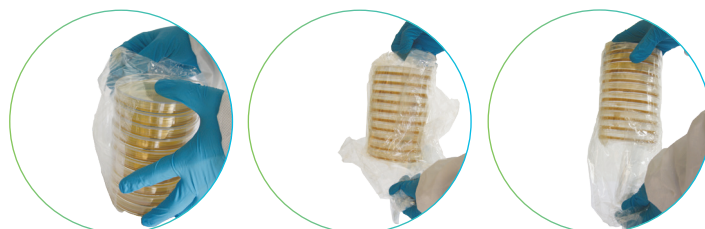
### CONTACT PLATES WITH LOCKABLE-SECURITY LID FOR THE USE IN CLEAN ROOMS AND STERILE AREAS

These lockable, gamma-irradiated, triple-bagged plates are particularly suitable for use in restricted areas like isolators and clean rooms. Gently pressing the top of the plate you can lock the lid and assure a safe transport to the laboratory that prevents possible contamination

#### Features:

- The locking lid allows an easy locking of plates after sampling, adding security during transportation and incubation
- A label including a data matrix barcode identifies each plate
- Storage at room temperature with a shelf life of 9 months
- Triple bagged, gamma irradiated (dose of 9-20 kGy)

Description	Pk	Cat.No.	MEL.No.
Tryptic Soy Agar + Neutralizing	20 plates Triple bagged, gamma irradiated	15203VS	VWRC15203VS
Sabouraud Dextrose Agar + Neutralizing	20 plates Triple bagged, gamma irradiated	15204VS	VWRC15204VS



### 90 MM PETRI DISHES

As with contact plates, Petri dishes also come with specific media for microbiological control of air and surfaces. These dishes come in sterile triple wrapped packaging which enables the transfer of plates inside low contamination or sterile environments (one of the three external wraps is removed before entry into a clean area). You can choose the best packaging and medium for your needs.

Plates are packed in bags with 10 plates in each. The box supplied contains 2 bags of 10 plates, with a total of 20 plates. One pack per bag displays an irradiation indicator.

#### 90 MM PETRI DISHES

Application fields: Pharmaceutical industry and hospitals, in compliance with EP, USP, ISO  
Storage: 15 to 25 °C for plates 280882TI, 280882ZI, 281112TI, 281112TI30 and 281112ZI

90 mm Petri dish media	Filling (ml)	Pk	Cat.No.	MEL.No.
Tryptic Soy Agar (TSA)	20	60	281112ZI	VWRC281112ZI
TSA with disinfectant neutralisers (Tween, lecithin, histidine, thiosulphate)	20	60	281112TI	VWRC281112TI
TSA with disinfectant neutralisers (Tween, lecithin, histidine, thiosulphate) with increased quantity of agar	30	60	281112TI30	VWRC281112TI30
TSA with antibiotic and disinfectant neutraliser (Penase, Tween, lecithin, histidine, thiosulphate)	20	20	131114RY	VWRC131114RY
R2A	20	20	130802ZI	VWRC130802ZI
Sabouraud 4% dextrose agar (SDA) irradiated	20	60	280882TI	VWRC280882TI
Sabouraud 4% dextrose agar (SDA) with disinfectant neutraliser	20	60	280882ZI	VWRC280882ZI
Sabouraud 4% dextrose agar (SDA) with Chloramphenicol	20	20	130884CI	VWRC130884CI

# Contact plate weight applicator

Microbiological surface sampler.

## CONTACT WEIGHT

Used in combination with contact plates, the weight enables the standardisation of microbiological surface control between operators. It applies the same constant pressure for a preset time on the contact plate. This ensures results are directly comparable.

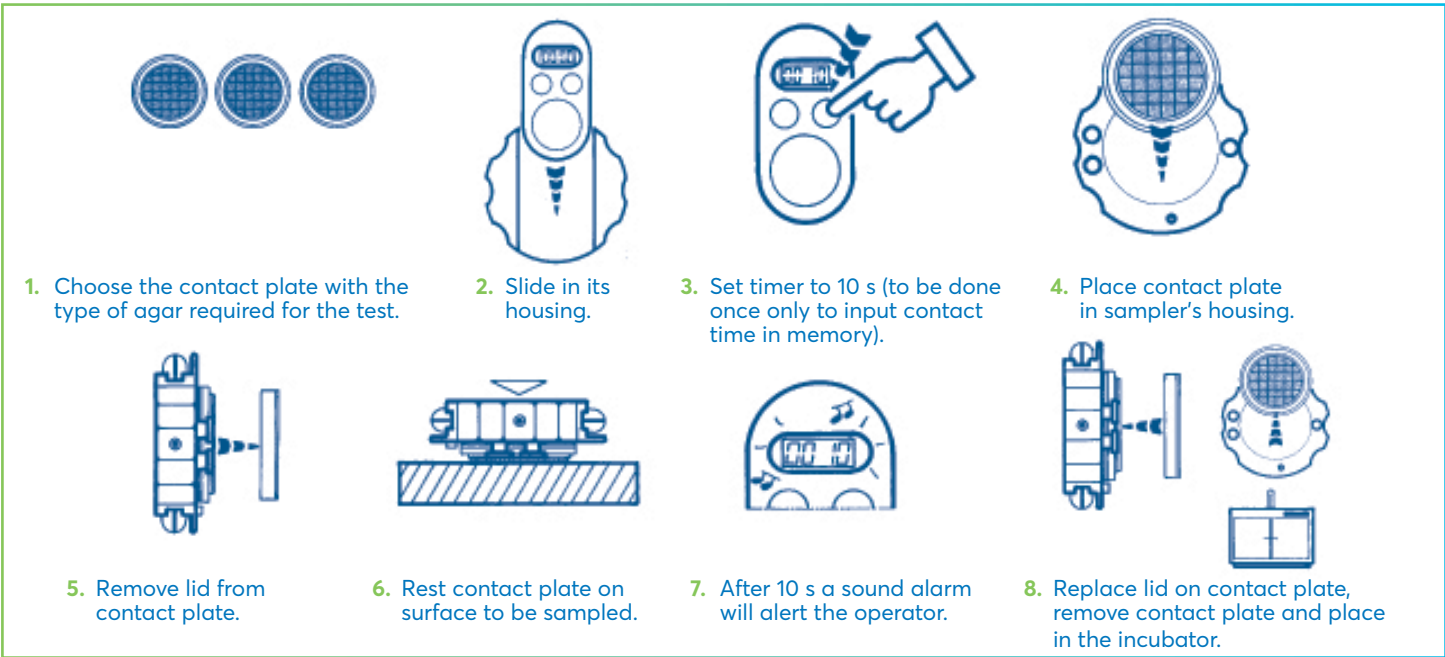
The Contact Weight meets the ISO 18593 Standard and has a sterilisable stainless steel base and pull out digital timer.

- Dry heat or steam sterilisable stainless steel base, with pull-out digital timer
- Can be used with different types of contact plates
- According to ISO 18593
- Weight: 500 g



Description	Pk	Cat.No.	MEL.No.
Contact Weight surface air samplers for contact plates	1	710-0961	PBIB15496.B
Straight autoclavable container to transfer the Contact Weight in a cleanroom	4	216-8206	NALG2116-0500

## Step by step guide for using the Contact Weight for microbiological control of surfaces.



# Colony counter

The all-in-one eCount™ combines a multifunctional electronic counter and a Sharpie® pen for marking Petri dishes to prevent missing or double-counting colonies.

### ECOUNT™

- Five-digit display
- Touch controls for multiple counts: Up to 32 different zones
- Counter automatically beeps with each count, or select the LED flash mode for a visual alert of each count
- Working temperature from 0 to 50 °C
- Light ergonomic body balanced for easy manipulation

Designed for rapid, accurate counts. Press the lock key to write with the Sharpie® pen without counting. The Sharpie® pen provides highly visible marks on both plastic and glass dishes. Counter accepts both fine and extra fine point Sharpie® pens. Easily change colours for separate counts.



### DELIVERY INFORMATION

Includes a three-volt CR 1220 lithium battery, one fine-point Sharpie® pen and weighted stand.

Description	Pk	Cat.No.	MEL.No.
Electronic colony counter	1	710-0596	HEATHS120000
Replacement pens	12	710-0918	HEATHS15092ZP

## Avantor Services



## Calibration Services

Air samplers are key to any environmental monitoring programme so regular checking of the volume of aspirated air is imperative to ensure that there are no errors in the monitoring of contamination.

VWR has a comprehensive calibration and service programme on air samplers. We recommend performing air sampler calibration every 6-12 months or sooner if the air sampler has potentially been damaged or the flow rate has been compromised.



# Setting science in motion to create a better world



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