

SURFACE AIR SYSTEM (SAS) MONITORING INSTRUMENTS

A complete system for
microbiological environmental
monitoring

Instruments and plates for
environmental control procedures
of air and surfaces



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

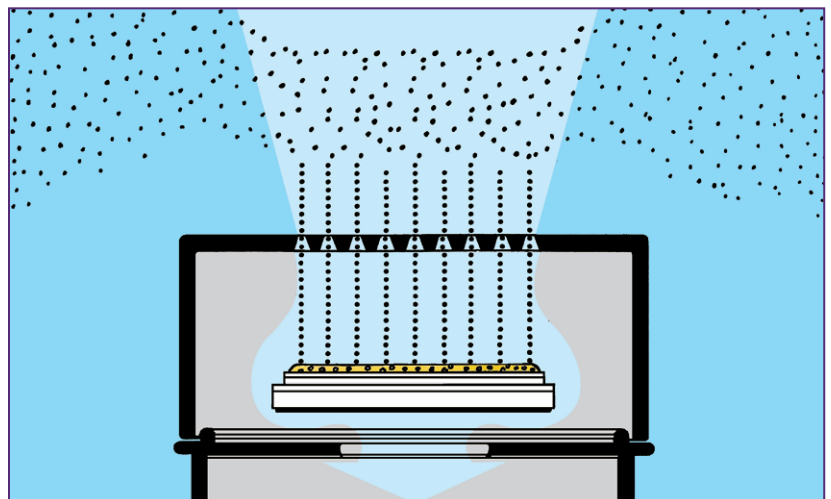
Specific models are designed to be used in cleanrooms classified according to ISO 14644-1, other instruments are available for open areas not classified by HACCP controls, for SBS (Sick Building Syndrome) investigations or for the control of air conditioning HVAC (Heating Ventilation Air Conditioning).

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



SAS SUPER ISO 100 AND SAS SUPER ISO 180

The microbiological air sampler created for pharmaceutical companies and hospitals.

SAS SUPER ISO 180 IS THE FASTEST "IMPACT TO AGAR" AIR SAMPLER ON THE MARKET.

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 21-CFR 11 and ISO 14698-1
- Over 70 000 litres of air with up to 300 memorised sampling cycles
- Sampling rate accurately maintained by speed sensor - incorrect aspiration aborts cycle
- 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

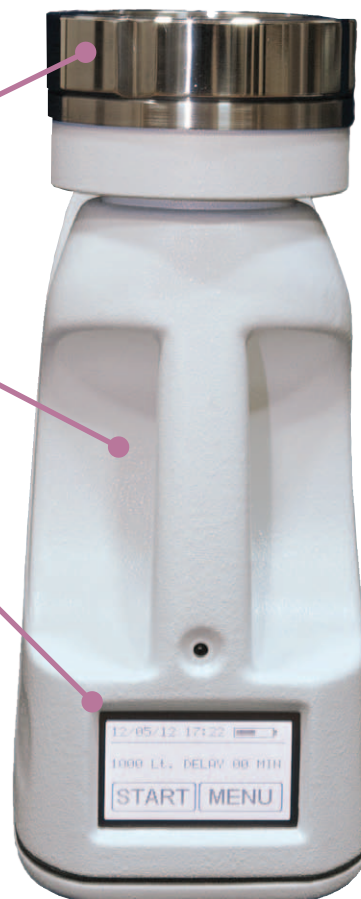
DATA TRANSFER

- 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



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
 - ◆ 8 hour battery life or 70 000 l from recharge
 - ◆ Power: 8,4 V - 2,7 amp/h
 - ◆ Size: 120x125x275 mm
 - ◆ Weight: 1800 g



SAS Super ISO without aspirating head and battery charger	Cat. No.
SAS Super ISO 100 for contact plates	710-0871
SAS Super ISO 100 for Petri dishes	710-0869
SAS Super ISO 180 for contact plates	710-0872
SAS Super ISO 180 for Petri dishes	710-0870

Accessories	Cat. No.
Soft carrying case	710-0896
Aluminium carrying case	710-0875
Bio-Transport autoclavable carrying case	113-8185
Handle for Bio-Transport carrying case	113-8186
Floor tripod	710-0889
SAS-Holder table and wall stainless steel	710-0963
Battery charger with universal plug for both models	710-0973
Adapter* to convert contact plate model to accept 90 mm Petri dishes	710-0882
SAS stainless steel Petri head + adaptor	710-0877
SAS aluminium Petri head + adaptor	710-0879
IQ OQ PQ validation protocols for SAS Super ISO 100 and 180	710-0956
SAS software for downloading data from SAS Super ISO (to use with interface)	710-0970
Interface for SAS software for SAS Super ISO	710-0971
Infrared remote control for SAS Super ISO	710-0969

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

Aspirating heads	Cat. No.
Aspirating head for contact plates, Ø 55 mm	
Stainless steel aspirating head for contact plates, Ø 55 mm	710-0880
Aluminium aspirating head for contact plates, Ø 55 mm	710-0892
Sterile daily head for contact plates, Ø 55 mm	710-0890
Aspirating head for Petri plates, Ø 90 mm	
Stainless steel aspirating head for Petri dishes, Ø 90 mm	710-0878
Aluminium aspirating head for Petri dishes, Ø 90 mm	710-0886
Sterile daily head for Petri dishes, Ø 90 mm	710-0891



REFERENCES

- USP chapter 1116 "Microbiological evaluation of cleanrooms and controlled environments"
- EU guide for GMP - "Manufacture of sterile medicinal products control medicines and inspection"
- ISO Standard 14698-1 - "Cleanrooms and associated controlled environments biocontamination control - Part 1: General principles and methods"
- FDA - "2004 guidance for industry on sterile drug products by aseptic processing - Pharmaceutical current good manufacturing practice"
- ACGIH - "Guideline for assessment of bioaerosol in the indoor environment"
- ASTM - "Draft Protocol - Committee D22.05.06"