

## 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

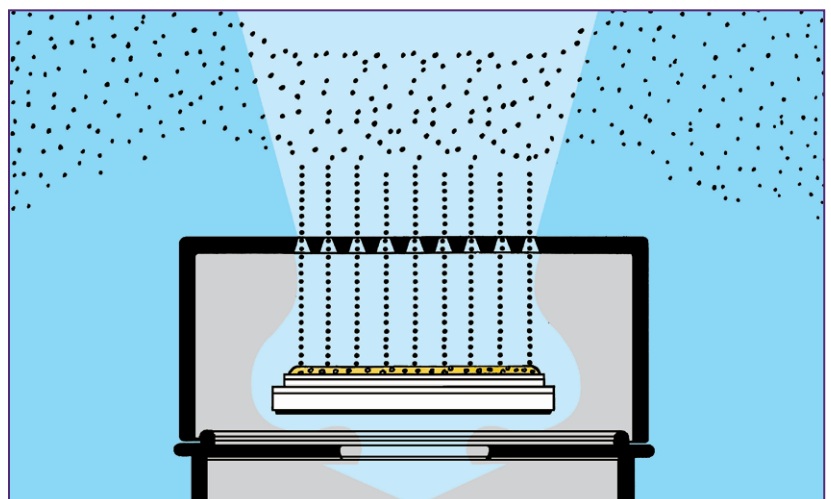
Specific models are designed to be used in cleanrooms classified according to ISO 14644-1, other instruments are available for open areas not classified by HACCP controls, for SBS (Sick Building Syndrome) investigations or for the control of air conditioning HVAC (Heating Ventilation Air Conditioning).

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



## DUO SAS SUPER 360

The only portable microbiological air sampler with two aspirating heads. Suitable for use in all fields of application.

CAN REDUCE SAMPLING TIME BY UP TO 70%!

### 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.

### WHY USE THE DUO SAS?

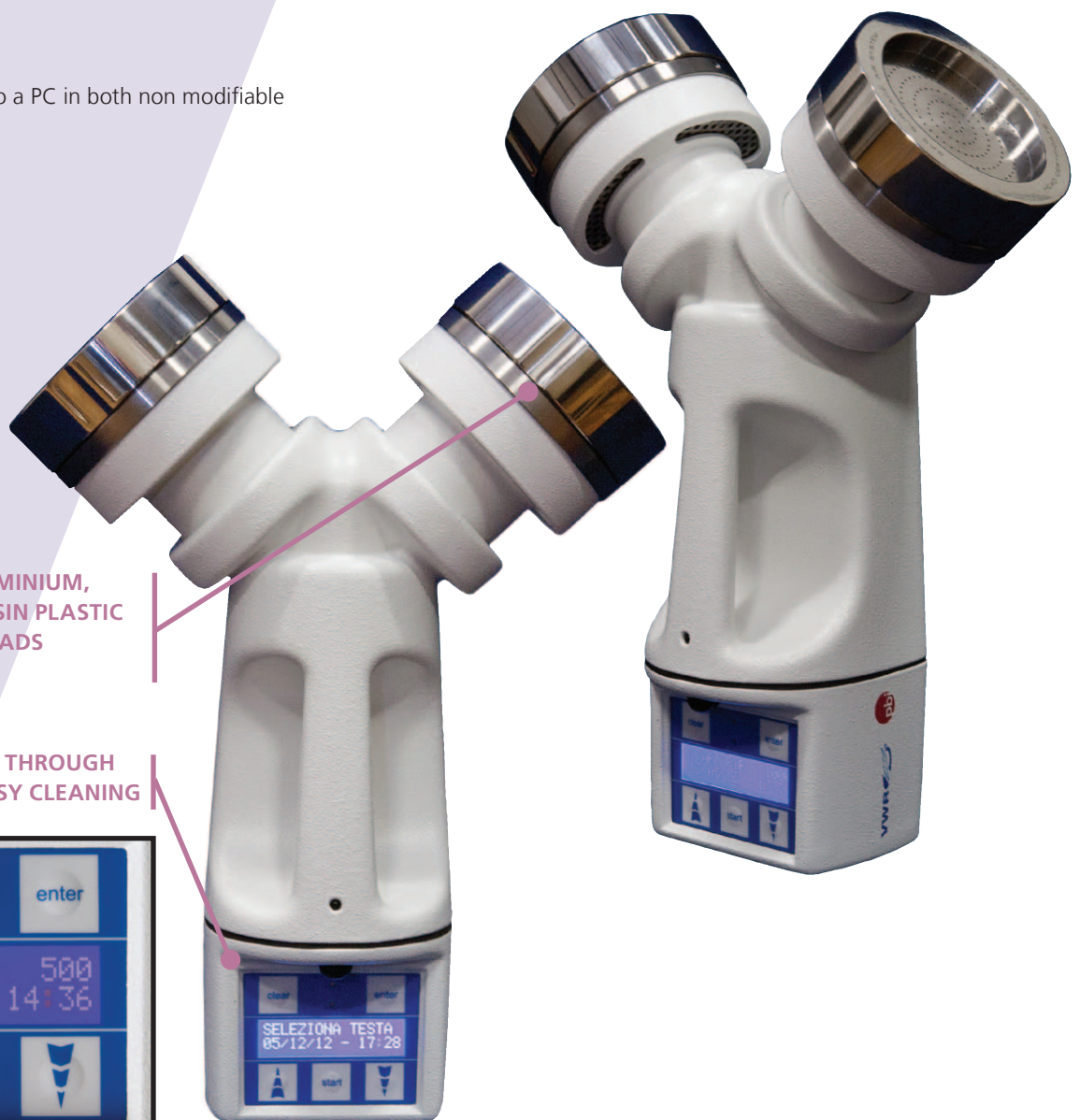
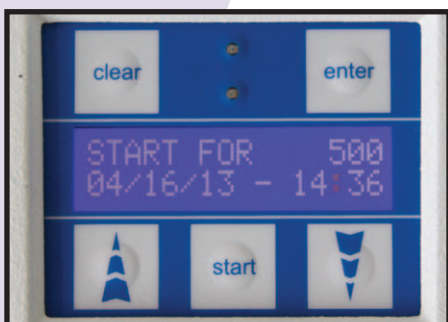
- Use *different* media in each head to capture different microorganisms
- Use the *same* media in each head for greater confidence
- TSA plates on left and aspirating heads on right to calculate an average result and to obtain a more reliable and realistic number of Colony Forming Unit (CFU)
- TSA plates on left and aspirating heads on right to monitor a higher volume of air in cleanrooms (360 l/min)
- TSA plates on left and aspirating heads on right 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

### DATA TRANSFER

- Can be downloaded onto a PC in both non modifiable (.sas) and Excel formats
- RS232 transfer to PC

CHOOSE BETWEEN ALUMINIUM, STAINLESS STEEL OR RESIN PLASTIC STERILE IRRADIATED HEADS

OPERATOR COMMANDS THROUGH TOUCH KEYPAD FOR EASY CLEANING



## PERFORMANCE

- Compliant with USP chapter 1116 and 21-CFR 11 and ISO 14698-1
- IQ OQ PQ validation protocols available
- Over 70 000 l of air, 4 h autonomy
- 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



DUO SAS Super 360 without aspirating head and battery charger	Cat. No.
DUO SAS Super 360 for contact plates	710-0867
DUO SAS Super 360 for Petri dishes	710-0866

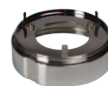
Accessories	Cat. No.
Soft carrying case	710-0888
Aluminium carrying case	710-0876
Floor tripod	710-0889
SAS-Holder table and wall stainless steel	710-0963
Battery charger with universal plug	710-0993
Adapter* for Petri dishes, Ø 90 mm (only for Duo SAS Super 360 for contact plates)	710-0882
SAS stainless steel Petri head + adaptor	710-0877
SAS aluminium Petri head + adaptor	710-0879
IQ OQ PQ validation protocols for Duo SAS Super 360	710-0957
SAS software for downloading data for Duo SAS Super 360 (to use with interface)	710-0975
Interface cable for software for Duo SAS Super 360	710-0964
Infrared remote control for Duo SAS Super 360	710-0962

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

Aspirating heads	Cat. No.
<b>Aspirating head for contact plates, Ø 55 mm</b>	
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
<b>Aspirating head for Petri plates, Ø 90 mm</b>	
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



710-0891



710-0882



710-0963



710-0969

710-0962



710-0876



710-0888



710-0889

## REFERENCES

- USP chapter 1116 "Microbiological evaluation of cleanrooms and controlled environments"
- ISO Standard 14698-1 - "Cleanrooms and associated controlled environments contamination 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"
- EU guide for GMP - "Manufacture of sterile medicinal products control medicines and inspection"