

Millipore®

Filtration, Separation
& Preparation

THE SAFETY SENTINELS

ENVIRONMENTAL MONITORING SOLUTIONS



The life science business of
Merck KGaA, Darmstadt,
Germany operates as MilliporeSigma
in the U.S. and Canada.

**MILLIPORE
SIGMA**



CONTENT

On Guard—Environmental Monitoring Solutions	5	Contact Plates for Isolators and Critical Cleanrooms	10
Ready-To-Use Culture Media at a Glance	6	Neutralizers and Swabs	11
Culture Media for the Highest Safety Standard	7	Monitoring Surfaces and Personnel	12
Monitoring in Isolators and Cleanrooms	8	Active Air Monitoring/Additional Accessories	15
Settle Plates for Isolators and Cleanrooms	9	Air Monitoring with Greatest Accuracy	16
		Innovative Air Monitoring for Isolators	17
		Air Monitoring for Isolators	18
		The IsoBag® Rapid Transfer Bag	19
		Next Generation Air Samplers	20
		The Industry Standard for Viable Air Sampling/Explosion-proof Air Sampling	21
		Compressed Gas Microbial Air Sampler	23
		Portable Battery-driven Air Sampler	25
		Media for Secure Media Fill Tests	26
		Our Services for You	27
		Ordering Information	28–35



ON GUARD

Environmental monitoring is key

Safety matters. And it is not just about eliminating microbial risks. Staying on guard and constantly monitoring your production environment keeps your production area safe. It saves time, and last but not least, it helps you maintain a spotless reputation as a company.

We have always taken pride in our adherence to the highest quality standards. And when it comes to environmental monitoring, that also means adhering to the highest safety standards. With our range of environmental monitoring products, we provide you with the means to identify threats which are invisible to the naked eye, before they can cause costly damage.

The full spectrum

To stay on the safe side, monitoring and testing is crucial. Reliable results are a must. We offer a comprehensive range of monitoring and testing solutions for all levels of safety, from less critical environments to highly critical cleanrooms and isolators.

To complement our product range, we offer a wide range of services, including IQ/OQ maintenance, calibration, product validation and application, providing a very convenient one-stop source for all your environmental monitoring needs.

ALways ready

WHEN IT COMES TO MICROBIAL SAFETY IN YOUR PRODUCTION FACILITIES, THERE ARE MANY DIFFERENT REGULATORY REQUIREMENTS TO BE MET.

We offer a broad range of ready-to-use culture media, so you always have the right product at hand. Our media formulations are tried and tested and come with well-thought-out features that make their use as easy and convenient as possible. Our portfolio of Ready-To-Use (RTU) media covers active and passive air monitoring as well as surface and personnel monitoring. In short, with our products, you can always have the right media for the task at hand.

Our culture media are composed to meet the ISO 14698 requirements of non-selectivity. This ensures the detection of a wide range of microorganisms. Where needed, supplementation of "Neutralizers" will help minimize or even completely overcome any antimicrobial activities at the sampling point. This can be very helpful, for example, in isolators, where disinfectant residues—such as vaporized hydrogen peroxide—on surfaces or antibiotics from the production environment might otherwise lead to inaccurate results.

In order to additionally improve reliability on a purely logistic level, we have set up a second production site and can now source from two locations: Eppelheim, Germany and Molsheim, France.

Our portfolio of ready-to-use culture media at a glance:

- **90 mm settle plates**
for passive and active air monitoring. Perfectly completes the MAS-100® air sampler family. 5-finger prints in personnel monitoring
- **ICR/ICRplus settle plates**
for air and personnel monitoring in highly critical areas, such as cleanrooms (ISO 5, ISO 6), isolators and RABS
- **LI settle plates**
for air and personnel monitoring in less critical areas, such as cleanrooms (ISO 7, ISO 8)
- **150 mm settle plates**
for passive air monitoring, personnel monitoring of hands
- **55 mm contact plates**
for surface and personnel monitoring according to ISO 14698
- **ICR/ICRplus contact plates**
for surface and personnel monitoring in highly critical areas, such as cleanrooms (ISO 5, ISO 6), isolators and RABS
- **RT contact plates**
for surface and personnel monitoring in less critical areas, such as cleanrooms (ISO 7; ISO 8)
- **ICR swabs**
for microbial detection in difficult to access areas in highly critical areas, such as cleanrooms (ISO 5, ISO 6), isolators and RABS
- **HYCON® contact slides**
for curved surfaces and personnel monitoring
- **HYCON® agar strips**
for use with RCS® air samplers

Maintaining the highest safety standards

MEDIA FOR USE IN CRITICAL ENVIRONMENTS

Our culture media for use in critical environments are produced in cleanrooms to minimize any risk of contamination. The final gamma-irradiation at 9–20 kGy for ICR agar plates minimizes contamination risks, and 25–35 kGy for ICR swabs ensures sterility. The media can be stored for up to 9 months at room temperature (15–25°C), which allows storage at the sampling site and reduces the number of incoming goods controls.

Safe transfer of the media through material locks into a critical cleanroom is made easy by transparent, triple packaging. The packaging is impermeable to VHP, and comes with a pre-punched hole, so it can be hung up inside the isolator for safe decontamination. Additionally, all our media for critical environments are supplemented to overcome growth-inhibiting properties of VHP residues. For convenient use with barcode readers and software-supported paperless trending of monitoring results, each plate comes with an individual 2D matrix code.

- ICR contact plates
- ICRplus lockable contact plates
- ICR settle plates
- ICRplus lockable settle plates
- ICR swab

The irradiated HYCON® ready-to-use agar media devices are individually sealed in the primary packaging. This prevents any cross-contamination during transfer into cleanrooms and allows visual inspection before opening.

- Irradiated HYCON® contact slides
- Irradiated HYCON® agar strips

Always keeping an eye on hygiene: media for use in non-critical environments

The single bagged and non-irradiated agar media are perfectly adapted for use in less critical environments like ISO 7/8. Just like with our media for critical environments, each plate for use in non-critical environments comes with an individual 2D data matrix code for use with barcode readers and software-supported paperless trending of environmental monitoring results.

- LI settle plates
- RT contact plates

The HYCON® ready-to-use agar media devices are individually sealed in the primary packaging. This allows easy storage of broached packages.

- HYCON® contact slides
- HYCON® agar strips



SAFETY SENTINELS

PERFECT RESULTS WITH OUR MONITORING SOLUTIONS

When monitoring cleanrooms and isolators, diligence is key. We offer a variety of easy-to-use solutions which help you ensure the highest standards in critical environments. We offer settle plates to complement our active air monitoring system. To make sure that results are not distorted by the presence of antimicrobial agents, reliable neutralizers are available. No matter which of our products you choose to help you keep contamination at bay, they all meet the international standards and regulations.

Environmental monitoring in isolators and cleanrooms: ICR and ICRplus

ICR and ICRplus settle plates are designed to meet the demands of environmental monitoring in isolators and cleanrooms. To reduce the percentage of water loss during air monitoring, the settle plates come with a high filling volume of 30 mL in 90 mm plates.

Animal-free formulations are available for minimizing the risk of BSE/TSE contamination. We offer Sabouraud Agar formulations in pink plates in order to allow for clear and easy differentiation of TSA and SDA. Additionally, ICRplus products come with a sophisticated locking system for safe transport and optimized incubation conditions under different atmospheres.

ICR SETTLE PLATES (FOR ISOLATORS AND CRITICAL CLEANROOMS)

Secure and reliable:

- Data matrix barcode on each plate: paperless and secure identification of individual plates
- Transparent, H₂O₂-impermeable triple-sleeve packaging: safe transportation in cleanrooms (ISO 5) and isolators
- Produced in cleanrooms, gamma-irradiated in final packaging: minimizes risk of contamination

Convenient:

- Storage at room temperature: storable at site of use
- Long shelf life: fewer incoming goods controls
- High filling volume settle plates: allow prolonged exposition and incubation

- SDA in pink plates: easily distinguishes between TSA and SDA

Flexible:

- Usable for personnel monitoring or as disposables for active air monitoring with MAS air samplers
- Supplemented by neutralizers for a wide range of disinfectants and β-lactam antibiotics
- New formulation of non-animal origin available: minimizing the risk of BSE contamination

ICR PLUS SETTLE PLATES (FOR ISOLATORS AND CRITICAL CLEANROOMS)

Secure and reliable:

- CLOSED- or VENT-Closure: safe transport and flexible incubation conditions
- Data matrix barcode on each plate: paperless and secure identification of single plates
- Transparent, H₂O₂-impermeable triple-sleeve packaging: safe transportation in cleanrooms (ISO 5) and isolators
- Produced in cleanrooms, gamma-irradiated in final packaging: minimizes risk of contamination

Convenient:

- Storage at room temperature: storage at site of use
- Long shelf life: fewer incoming goods controls
- SDA in pink plates: easily distinguish between TSA and SDA

Flexible:

- Supplemented by neutralizers for a wide range of disinfectants and β-lactam antibiotics
- New formulation of non-animal origin available: minimizing the risk of BSE contamination

ICR CONTACT PLATES (FOR ISOLATORS AND CRITICAL CLEANROOMS)

Secure and reliable:

- Data matrix barcode on each plate: paperless and secure identification of individual plates
- Transparent, H₂O₂-impermeable triple-sleeve packaging: safe transportation in cleanrooms (ISO 5) and isolators
- Produced in cleanrooms, gamma-irradiated in final packaging: minimizes risk of contamination

Convenient:

- Storage at room temperature: storable at site of use
- Long shelf life: fewer incoming goods controls
- SDA in pink plates: minimizes risk of confusion

Flexible:

- Many different formulations for the monitoring of sanitized, dry surfaces
- Supplemented by neutralizers for a wide range of disinfectants

ICR PLUS CONTACT PLATES (FOR ISOLATORS AND CRITICAL CLEANROOMS)

Secure and reliable:

- CLOSED- or VENT-Closure: safe transport and flexible incubation conditions
- Data matrix barcode on each plate: paperless and secure identification of single plates
- Transparent, H₂O₂-impermeable triple-sleeve packaging: safe transportations in cleanrooms (ISO 5) and isolators
- Produced in cleanrooms, gamma-irradiated in final packaging: minimizes risk of contamination

Convenient:

- Storage at room temperature: storing on location
- Long shelf life: fewer incoming goods controls
- SDA in pink plates: easily distinguishes between TSA and SDA

Flexible:

- Many different formulations for the monitoring of sanitized, dry surfaces
- Supplemented by neutralizers for a wide range of disinfectants and β-lactam antibiotics
- New formulation of non-animal origin available: minimizing the risk of BSE contamination



Neutralization of antimicrobial activity

We offer a wide variety of formulations to counter the effects of the presence of a range of antimicrobial agents, such as disinfectant residues or β-lactam antibiotics on surfaces.

With standard neutralizers such as lecithin, Tween® 80 surfactant, histidine and sodium thiosulfate, a wide range of disinfectants can be neutralized reasonably effectively.

In β-lactam antibiotic manufacturing sites, the sampling results of air and surface monitoring are at risk of being affected by residues of the antibiotic. The efficacy of different β-lactamases against the broad spectrum of

Table 1

Active agents	TSA + LT	TSA + LTHT
Isopropyl alcohol	•	•
Hydrogen peroxide	•	•
Peracetic acid	•	•
Phenolics	•	•
Sodium hypochlorite	•	•
Aldehydes	•	•
QAC	•	•

β-lactam antibiotics varies and depends on their origin of isolation. Our Cephase media shows an impressively broad spectrum of inactivated β-lactam antibiotics including:

Table 2

Antibiotic group	Confirmed activity of Cephase containing plates
Penicillins	ampicillin, mezlocillin, oxacillin, penicillin
Penicillins mixed with lactamase inhibitors	ampicillin/sulbactam, amoxicillin/clavulanic acid, piperacillin/tazobactam
Cephalosporins	cefexim, cefazolin, cefotaxime, ceftriaxone, cefuroxime, cefquinom, cefepim, cefoperazon, cefoxitin, ceftiofur, ceftriaxon
Penems	meropenem, imipenem
Monobactams	aztreonam

ICR swabs for surface and personnel monitoring in isolators and cleanrooms

Our ICR swabs are designed for absence-presence testing on dry surfaces that are difficult to access, and for personnel monitoring.

The patented snap valve design of the swab makes handling both convenient and safe. The swab tip material displays low abrasion, which minimizes the

release of particles during use. The tip's moistening solution does not leave any growth promoting residues on the sampled surfaces.

The growth medium for the swabs is casein soybean digest broth. It is supplemented with neutralizers according to pharmacopoeia recommendation. By default, it is supplemented to overcome growth inhibiting properties of VHP residues in isolators.



Eliminating blind spots

YOU CAN NEVER BE TOO CAUTIOUS WHEN IT COMES TO KEEPING PRODUCTION PLANTS CLEAN. TO ENSURE THAT YOUR CONTROLS AND SAFETY MEASURES WORK, AIR SAMPLING IS OFTEN NOT ENOUGH.

In order to stay on the safe side and avoid blind spots, monitoring surfaces and personnel is crucial. Thanks to our ready-to-use contact plates, slides and swabs, it's simple.

HYCON® contact slides for monitoring of curved surfaces and personnel

HYCON® contact slides are designed for monitoring flat and curved surfaces as well as personnel. Depending on whether you need them for critical or non-critical environments, they are available in standard single packaging or in a double-bagged, gamma-irradiated format.

Both Standard HYCON® contact slides and Gamma-irradiated HYCON® contact slides are rectangular in shape, providing a constant surface of 25 cm². Individual sealing of the primary packaging allows for the use of single contact slides to reduce waste. The slide body is slightly flexible to allow for efficient sampling of curved surfaces. The slides are equipped with a cover slide for closure after use, increasing safety during both transport and incubation.

Gamma-irradiated HYCON® contact slides

For use in critical environments, final gamma-irradiation at 16–27 kGy minimizes contamination risks. The irradiated slides come in transparent double-packaging which makes safe transfer through material locks into critical cleanrooms simple. The fact that each slide is sealed individually allows for safe observation on contamination of the closed slide even before opening.

Single-bagged contact and settle plates for environmental monitoring in less critical areas

When it comes to monitoring less critical cleanroom areas, such as grade C and D, or non-specified environments, our single bagged room temperature contact plates, as well as long incubation settle plates are a tried and tested choice. Their high-filling volume—30 mL in 90 mm settle plates—reduces the percentage of water loss during the air monitoring procedures.



Growth on culture media

The video shows the growth of environmental microorganisms as well as selected microorganisms recommended by the pharmacopoeia for growth promotion tests



SOMETHING in the air?

CULTURE MEDIA AND ACCESSORIES FOR RCS® AND M AIR T® MICROBIAL AIR SAMPLERS AND BEYOND.

Our air sampling systems are known as highly reliable tools for active air monitoring. They are easy-to-use and help you to comply with the strictest international standards and regulations by always keeping an eye on the microbial status of your production environments. To make working with our air samplers both as dependable and convenient as possible, we offer both matching culture media and accessories.

HYCON® agar strips

Specifically designed for use with the RCS® air samplers, HYCON® agar strips come in a well-thought-out packaging design. They are individually sealed, which allows for use of single agar strips. It also enables you to safely observe for contamination of the closed slide before opening. Cover slides for closure after use safeguard the sample during transport and incubation.

The transparent double-packaging of the gamma-irradiated version of agar strips ensures safe transfer through material locks into critical cleanrooms. The primary packaging is impermeable to VHP which makes decontamination in isolators entirely unproblematic.

For easy tracking and software-supported paperless trending of environmental monitoring results, the packages come with individual barcodes. The gamma-irradiated versions of the strips are irradiated at 16–27 kGy to minimize contamination risks.

Culture media for M Air T® air samplers

For the M Air T® air sampler, there are two options available, depending on your particular needs: double-bagged and gamma-irradiated agar cassettes are your method of choice if you are looking to monitor for total aerobic count, yeast and mold count as well as air monitoring in the presence of β -lactam antibiotics. For your self-prepared special culture media, we also offer empty cassettes.

Accessories for settle and contact plates

To further add to the ease of use and safety of our environmental monitoring solutions, we offer a variety of accessories that help you get the job done. To minimize cross-contamination caused by non-sterile handling of plates, use our sterilized zipper bags when you transfer samples from your production area to the incubators.

Stainless steel racks help with the safe and easy transport of larger numbers of contact and settle plates, as well as ICR swabs. The rack for contact plates has a capacity for 10 plates at a size of 7 cm x 25 cm (height), the rack for settle plates also has a capacity for 10 plates at a size of 10 cm x 24 cm (height). Last but not least, the stainless steel rack for ICR swabs holds 36 tubes at dimensions of 19.6 cm x 9.9 cm x 10.4 cm.

TOTAL CONTROL

ACCURATE AIR MONITORING WITH THE MAS-100® SERIES.

The MAS-100® series of microbial air monitoring systems serves to sample and monitor air for airborne organisms with the greatest accuracy. All MAS-100® devices are sieve impaction systems based on the Anderson impaction principle.

Step by step, this means that air is aspirated in through a perforated lid with a constant air flow rate of 100 L/min. which is automatically maintained by a flow sensor and a radial fan. The airflow is directed onto a standard Petri dish with agar medium. Once the collection cycle is completed, the Petri dish is incubated and colonies can be counted and evaluated.

AN EYE ON ISOLATORS

MAS-100 ISO MH®. PURE INNOVATION.

The MAS-100 Iso MH® air sampler is used to measure the microbiological contamination of the air in isolators. A unique security concept permits the installation of the sampling heads for standard 90–100 mm Petri dishes at the critical control points. All electronic and moving parts are outside the critical zone. The MAS-100 Iso MH® has an additional internal pump with flow control for automatic disinfection of the sampling head and the aspiration tube.

An innovative double valve system enables the sampling heads to be integrated into the decontamination process of the isolator. Each unit has both an air and a sterilization pump which works fully autonomously. The MAS-100 Iso MH® air sampler is built according to GAMP 5 and corresponds to the ISO 14698 standard. It is a completely independently validated system designed for the highest demands.

Technical specifications for MAS-100 Iso MH® air sampler

Feature	Specification
Sampling head	h x Ø: 9 cm x 10.9 (1.5 kg)
Instrument	(L/W/H) 42.3 x 38 x 16 cm (9.1–16.6 kg depending on the configuration)
Airflow	100 SLPM
Sampling volume	selectable from 1–2,000 litres
Impaction speed	approx. 20 m/sec
Sampling head	stainless steel
Operation	direct access or over PC
Automatic calibration cycle	
USB, RS232 ports, digital in/outputs	
Ethernet or Profibus optional	
Automatic in-line disinfection cycle	
Relevant directives	2006/42/EC European Union Machinery directive, 2014/35/EC, European Union Low voltage directive, 2014/30/EC, European Union Electromagnetic compatibility, 2011/65/EC, European Union RoHS, 2012/19/EC European Union WEEE, EC 1907/2006, European Union REACH, SJ/T11363-2006 P.R. of China RoHS, CU/TR TPTC 004/2011 Custom Union EAC
Applied standards	IEC 61010-1:2006, 3 rd edition; IEC 61326-1:2012, 2 nd edition; EN 61326-1:13, IEC 60529:1989-1 + A1:1999; EN 60529:191-10 (incl. corrigendum: 1993-05) + A1:2000-02
GAMP	Developed and validated according to GAMP5. Usage as category 3 recommended (off-the-shelf product).



MAS-100 Iso NT® for isolators

The MAS-100 Iso NT® air sampler is specifically designed for use in aseptic production and sterility testing isolators.

It is available in an IP54 accessory for increased flexibility. The MAS-100 Iso NT® is produced by GAMP 4 specifications and is compliant with guidelines as specified in ISO 14698 part 1 and part 2. The MAS-100 Iso NT® uses an innovative double valve system which enables the sampling heads and unit to be integrated into the decontamination process of the isolator or cleanroom. The valve system allows the vaporized hydrogen peroxide (VHP) to run through the sampling head and internal flow path without damage to the instrument.

The system operates with an integrated mass flow sensor and uses 90–100 mm Petri dishes. The sampling head mounts inside the isolator with the instrument portion on the outside. The MAS-100 Iso NT® utilizes a flexible communications package including Ethernet, Profibus and 9 digital inputs/outputs.

The MAS-100 Iso NT® allows for remote activation via a computer or the PLC controlled on the isolator.

The new MAS-100 Iso NT® shares the same sampling accuracy and features as the rest of the MAS-100® family. For further information about our workshops and onsite services please have a look at page 27.

Technical specifications for MAS-100 Iso NT® air sampler

Feature	Specification
Nominal airflow	100 SLPM ± 2.5%
Dimensions	(L/W/H) 16 x 29 x 23 cm
Weight	7.5 kg without sampling head
Power	110–240 Volt, 1.5 A, 50–60 Hz
Power input	DC 24 V/3.25 A/65 W Max
Max current	2.5 A
Display	Backlit liquid crystal display
Preset sampling volumes	100, 250, 500, 750, 1,000 litres
User definable sampling volumes	1 to 2,000 litres
Material (side panels)	Anodized aluminum
Anemometer	Hot-wire anemometer, numeric control Alphanumeric liquid crystal display, 2 x 8 characters
Lifetime RTC battery	RTC (Real Time Clock) battery; good for approx. 10 years
Guidelines	73/23/EEC, 89/336/EEC, DIN EN 61326-1:2012, DIN EN 61010-1:2006, GAMP 4.0:2001
Relevant directives	2006/42/EC European Union Machinery directive, 2014/35/EC European Union Low voltage directive, 2014/30/EC European Union Electromagnetic compatibility, 2011/65/EC European Union RoHS, 2012/19/EC European Union WEEE, EC 1907/2006 European Union REACH, SJ/T11363-2006 P.R. of China RoHS, CU/TR TPTC 004/2011 Custom Union EAC
Applied standards	IEC 61010-1:2006, 3 rd edition; IEC 61326-1:2012, 2 nd edition; EN 61326-1:13; EN 60529:91 + A1:2 (only with optional IP54 accessory)
Valves rigid	PVC/Viton/SS
New ISO 14698	validated 98%
Sampling head	Specification
Weight	1.5 kg
Material	Stainless Steel (316 L)
Connector	3/4" Tri-Clamp® device
Diameter	10.9 cm
Height	9 cm



The IsoBag® rapid transfer bag— a true timesaver

Production workflows are always at their most efficient when you have all your tools ready and available. Which is why we created a unique transportation and packaging bag as a reliable and easy way to have environmental monitoring plates right at hand in the isolator: the IsoBag® rapid transfer bag.

Environmental monitoring in aseptic production isolators is made quicker by the IsoBag® as it provides ready-to-use gamma-irradiated contact or settle plates for immediate use; the bag is simply mounted to the 190 mm alpha port of the isolator and the required amount of plates can be transferred into the isolator

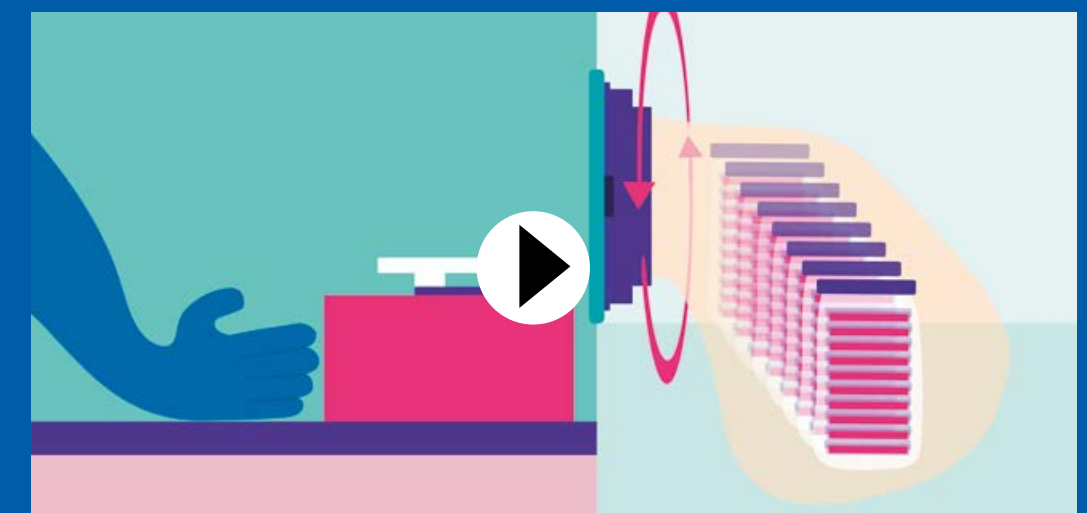
for immediate environmental monitoring. Saving time for decontamination will increase your operational productivity. In addition, no extra space is required in your isolator to store the required amount of plates between decontamination cycles.



Take the MAS-100 Iso MH® product video tour



Learn more with the IsoBag® video



THE MAS-100 VF®

THE NEXT GENERATION OF AIR SAMPLERS

As for all MAS-100® systems, the MAS-100 VF® samples at a flow rate of 100 L/min. The handle enables the sampler to be mounted onto an optional tripod, thereby allowing testing at different angles for fixed applications. The perforated lid is the same as on the standard MAS-100® sampler. The new MAS-100 VF® active air sampler was specially developed for controlled environments. Regulatory expectations require air monitoring in manufacturing facilities because microbial contamination may influence quality

and reduce shelf life. The MAS-100 VF® sampler uses 90–100 mm standard Petri dishes, is easy to handle and compact, and is ideal for monitoring the quality of your environment.

Its electronic speed control maintains an accurate flow rate. The simple user menu is easily accessed and operated by a single touch slide control. Sampling volumes are programmable from 1–1,000 L, with 5 preset volumes to assure reproducible results.

Technical specifications for MAS-100 VF® air sampler

Feature	Specification
Height	179 mm
Diameter	109 mm
Depth with handle	148 mm
Weight	1.75 kg (with sampling head)
Material	Anodized aluminum
Diameter of sampling head	10 cm
Nominal airflow	100 LPM ± 4%
Sampling volume	Preset values: 50, 100, 250, 500 and 1,000 litres Each volume can be preset to a value from 1 to 2,000 litres
Airflow regulation	Electronic
Petri dish support	For standard Petri dishes and contact plates
Tripod screw	1/4" and 3/8" for use with optional tripod
Rechargeable batteries	Rechargeable Li-ion battery pack
Motor	6 V
Display	Alphanumeric liquid crystal display, 2 x 8 characters
Lifetime RTC battery	RTC (Real Time Clock) battery; good for approx. 10 years
Operating conditions	Temperature 5 to 40 °C, humidity 0 to 80% RH (non-condensing)
Control unit	Microprocessor
Relevant directives	2014/35/EC European Union Low voltage directive 2014/30/EC European Union Electromagnetic compatibility 2011/65/EC European Union RoHS 2012/19/EC European Union WEEE EC 1907/2006 European Union REACH SJ/T11363-2006 P.R. of China RoHS CU/TR TPTC 004/2011 Custom Union EAC
Applied standards	IEC 61010-1:2006, 3rd edition IEC 61326-1:2012, 2nd edition EN 61326-1:13
GAMP	Developed and validated according to GAMP5. Usage as category 3 recommended (off-the-shelf product).
Power unit/battery charger	100 to 240 V AC/47–63 Hz
Output	5 V DC/2000 mA



MAS-100 NT®

THE INDUSTRY STANDARD FOR VIABLE AIR SAMPLING

MAS-100 NT EX®

EXPLOSION-PROOF AIR SAMPLING

The MAS-100 NT® and MAS-100 NT Ex® portable microbial air samplers are the industry standard for use in critical environments. These compact yet sophisticated devices are the preferred choice for those demanding the highest quality in microbial air monitoring. The MAS-100 NT® system features a new 300-hole perforated lid for increased collection efficiency and impaction speed. Both systems utilize standard 90–100 mm agar plates or can be adapted to fit 55–60 mm contact plates allowing for a low consumable cost and greater flexibility. Sampling at 100 L per minute, these systems have the highest airflow accuracy available at ± 2.5%, compared to others that can be as high as ± 10%.

The integrated flow sensor allows the user to freely interchange the perforated lids without affecting the accuracy or the calibration of the unit. Sampling volumes are also easily configurable between 1 and 2,000 L. The units have an impact velocity of 19.6 meters per second equivalent to Anderson 6 and isokinetic flow rate that will not produce turbulence in a laminar flow environment. The SQS function will allow for smaller sampling volumes over longer periods of time (up to 50 sequences over 24 hours*). The new MAS-100 NT® systems are controlled using a new menu driven, larger illuminated display allowing for quicker navigation. A programmable start delay of up to 60 minutes allows for personnel to be out of the sampling area when the sampling starts and a new audible alarm indicates the interruption of a sampling cycle.

The MAS-100 NT® system is powered by a new Lithium ion rechargeable battery with an intelligent charging program that assures long battery life without routine discharging. When fully charged, the battery pack provides 7 hours of continuous operation or about 42,000 L of total volume. The MAS-100 NT® microbial air sampler also features a USB data communication port. This allows for easy download of software upgrades and easy communication with database programs. The improved communications provides an interface to the new DA-100 NT® calibration standard for fully automated calibration.

The MAS-100 NT® and MAS-100 NT Ex® systems are the first microbial air sampling systems with automated calibration, assuring absolute accuracy. The MAS-100 NT Ex® shares all of the same functions of the MAS-100 NT® system but is specially designed for use in explosion proof areas. The MAS-100 NT Ex® system has received ATEX Conformity and can be used in zone 2 and gas groups 11A, 11B and 11C in temperature classes T1 to T4.

* Note: Customers should validate the use of SQS to ensure minimal dehydration effect on the media.

Technical specifications for MAS-100 NT[®] and MAS-100 NT Ex[®] systems

Feature	Specification
Height	27 cm
Diameter	11 cm
Weight	2.3 kg
Material	Anodized aluminum
Diameter of sampling head	10 cm
Nominal airflow	100 litres/min. + 2.5%
Standard sampling volumes	50, 100, 250, 500, 1,000 litres
Freely definable sampling volumes	1 to 2,000 litres
Battery pack	Li-Ion, rechargeable battery, 7.4 V/6.9 Ah
Charging time	Full recharge time approx. 3.5 hours
Running time	Total running time approx. 7 hours
Total aspiration volume	approx. 42,000 litres
Motor	6 V
Display	Alphanumeric liquid crystal display, 32 characters
Lifetime RTC battery	RTC (Real Time Clock) battery; good for approx. 10 years
Driving motor	PWM frequency for driving motor
Processor	Type 80C552
Airflow regulation	Hot-wire anemometer, numerical control, temperature and pressure sensors
Relevant directives	2006/42/EC European Union Machinery directive 2014/35/EC European Union Low voltage directive 2014/30/EC European Union Electromagnetic compatibility 2011/65/EC European Union RoHS 2012/19/EC European Union WEEE EC 1907/2006 European Union REACH SJ/T11363-2006 P.R. of China RoHS CU/TR TPTC 004/2011 Custom Union EAC
Applied standards	IEC 61010-1:2006, 3rd edition, IEC 61326-1:2012, 2nd edition EN 61326-1:13, EN 55011:09 + A1:10 class A
GAMP	Developed and validated according to GAMP4 Usage as category 3 recommended (off-the-shelf product).
Power unit/battery charger	11-240 Volt, 50-60 KHz
Data exchange	USB Interface

Note: Specifications for the MAS-100 NT Ex[®] system are the same as above.



MAS-100 CG Ex[®]

COMPRESSED GAS MICROBIAL AIR SAMPLER

The MAS-100 CG Ex[®] system samples at two constant flow rates, 100 L/min or 50 L/min for low flow applications. The system will sample gas at a pressure range between 1.5 bar to 10 bar. Compressed gas is directed through a perforated plate onto the 90-100 mm Petri dish. After sampling of the required volume of gas, a gradual decompression occurs automatically, preventing any sudden pressure change, avoiding possible damage to the microorganisms and improving recovery.

The MAS-100 CG Ex[®] system is the only compressed gas microbial air sampler approved for use in Zone 2 explosion hazard areas. The unit is pre-programmed for compressed air, nitrogen, carbon dioxide and argon gas, and a total of 10 gas protocols can be programmed and stored in the unit. The automated collection process saves time and eliminates the awkward and risky manipulations required with manual methods.

Technical specifications for MAS-100 CG Ex[®] system

Feature	Specification
Height	32.5 cm
Length	37.0 cm
Width	11.0 cm
Weight (without sampling head)	10 kg
Material box	Coated aluminum
Nominal flow rates	100 L/min. +10% over the pressure range of 1.5 bar to 10 bar (absolute) 50 L/min. +10% over the pressure range of 1.5 bar to 10 bar (absolute)
Standard sampling volumes	50, 100, 250, 500, 1,000 litres
Freely definable sampling volumes	1 to 2,000 litres, volumes individually selectable between 0 and 2,000 litres. 0 volumes are not displayed
Pre-programmed gas types	Air, nitrogen, carbon dioxide, argon
Battery pack	20 cells NiMH, 3,800 mAh, voltage 24 V
Battery charger	110-240 Volt, 50-60 Hz
Charger output	36 V DC, 1.5 A
Display	Alphanumeric liquid crystal display, 32 characters
Lifetime RTC battery	RTC (Real Time Clock) battery; good for approx. 10 years
Flow valve	Proportional, 24 Volt
Processor	Type: 80C552
Gas regulation	Mass flowmeter and pressure sensor 0-10 bar and proportional valve
CE Approval	EN 61000-6-1; 2001, EN61000-6-3; 2001, EN61000-6-2; 2001, EN61000-6-4; 2001, EN61326-1 + A1, 1998
Ex-Proof	SNCH 02 ATEX 3418, EN1127; 1997, EN 50021; 1999



Technical specifications for sampling head

Feature	Specification
Head without clamps, height	16.0 cm
Diameter	10.0 cm
Weight	1.5 kg
Material	Anodized aluminum, clamps of stainless steel
Autoclavable	20 minutes at 121°C
Tubing	Length, 1.5 m ID = 10 mm, OD = 19 mm, sterilize for 20 min at 121°C
Rapid connectors	Chromium-plated brass

RCS® HIGH FLOW TOUCH

The **RCS® high flow touch** microbial air sampler has been designed to provide maximum ease of handling. The instrument ensures reliable and reproducible results. Instrument features such as a high resolution color touchscreen, an intuitive software, a battery concept with advanced control options and a modern, ergonomic design allow for maximum reliability in monitoring ambient air and compressed gas.

Functional principal of the RCS® air sampler

The RCS® air sampler employs the principle of centrifugal impaction according to Reuter—the pioneering technology for portable, battery-driven microbial air samplers—and provides the following key benefits:

- Balanced impaction speed
- Low turbulence and controlled air stream
- Even distribution of micro-organisms
- No local drying of the agar
- Complete system with standardized agar media
- Easy disinfection, with an autoclavable sampling head



Technical data and specifications

Collection principle	Centrifugal impaction according to Reuter (Reuter Centrifugal Sampler, RCS®)
Operation	Portable device with color touchscreen. Battery operation with integrated Lithium-ion battery
Range of measurement	1–2000 L (recommended: 10–1500 L)
Flow rate	100 L/min (1000 L in 10 min)
Instrument deviation	± 5%
Sample volume	7 pre-set sample volumes: 10, 20, 50, 100, 200, 500 and 1000 litres 3 user defined sample volumes from 1 to 2000 litres
Rotor speed	8200 rpm
Tolerable axial force on rotor shaft	30 Newton
Environmental conditions	Temperature: 5–40°C, relative humidity: 20–80% (non-condensing) Height: < 3000 M (NN)
Electrical supply	<ul style="list-style-type: none"> • Rechargeable Lithium-ion battery • Power supply (conversion direct current 24 V, power consumption 72 W) • Docking station (optional)
Size (H × B × T), weight	300 × 130 × 110 mm, approx. 1500 g (3.3 lbs)
Overvoltage category	II
Pollution	2
Automatic power off	Within 8 minutes after the last action.
Material	Housing: Lexan polycarbonate (PC); Sampling head (autoclave-able): Stainless steel/anodized aluminum/APEC polycarbonate
Interface	Serial RS232 interface, USB adapter, standard tripod thread
Calibration	Automated calibration (Anemometer, CalibSo Software), calibration reminder
User defined functions	<ul style="list-style-type: none"> • Individual sample volumes • Delay time • Interval sampling (RCS® management software) • QA Level management (RCS® management software) • Language, local time • Date (RCS® management software) • Rotor selection and rotor management • Optional software: CalibSo

MEDIA FILL

Granulated and ready-to-use culture media for secure media fill tests

When performing media fill trials, you shouldn't have to worry about culture media compromising your validated process.

With our irradiated, triple-wrapped culture media, you won't. Every batch is carefully tested for sterility and growth performance.

Choice of format for your simulation:

- Pre-filtered ready-to-use broths in gas-impermeable 10 L bags
- Low-dust granules with excellent cold-filterability performance

Choice of media type:

- Tryptic soy broth or thioglycolate broth
- Vegetable peptone alternatives for TSB and FTM

Ultimate security:

- BSE-certified or non-animal origin
- Validated sterilization process



Ordering information

Description	Granulated	Ready-to-use	Package Size	Ordering No.
Tryptic soy broth irradiated	•		500 g	1.00800.0500
Tryptic soy broth irradiated	•		5 kg	1.00800.5000
Tryptic soy broth (in self-collapsing, single-use bag)		•	10 L	1.46316.0001
Tryptic soy broth non-animal, irradiated	•		500 g	1.00550.0500
Tryptic soy broth non-animal, irradiated	•		5 kg	1.00550.5000
Vegetable peptone broth (in self-collapsing, single-use bag)		•	10 L	1.46332.0001
Thioglycolate broth, non-animal, irradiated	•		5 kg	1.08720.5000

SERVICES

Validation service and documentation

We aim to provide complete validation documentation to help you through the validation process. Our validation protocols are based on our internal product qualification test methods. These extensive protocols will enable the QA/QC Lab to quickly initiate your validation master plan and perform IQ, OQ and PQ (suitability of the test methodology) with ease. International guidelines such as EP/USP and GMP are followed rigorously.

Our experienced and trained validation engineers are skilled to assist in validation protocol implementation within the QC microbiology laboratory, so the QA/QC departments do not have to allocate resources. Complete and technical training on your air sampler is also provided during the validation engineer's visit. Having a MilliporeSigma validation protocol and on-site service eliminates high costs, both apparent and hidden, and helps ensure the validation is completed quickly and economically, and guarantees optimal performance over the equipment lifetime. Contact your local sales representative for the availability of validation support and training at your site.

Services plans: preventative & curative maintenance

The services provided include:

- Complete yearly visual, functional and performance "as found" and "as left" checks including calibration for all MAS-100® systems.
- Calibration certificate (traceability from NIST) and complete service report is provided with every service. In addition to the above services, additional verification, calibration or preventive maintenance (included verification & calibration) options are available. We offer several contract levels to give you the possibility to enhance the coverage of the equipment e.g. spare part and repair visits can be included in your contract. Our certified service engineers can service your air sampler in our closest repair depot or directly in your lab. Contact your local sales representative for more information and on-site availability.

Traceability & calibration accuracy

The sample collection volume for each MAS-100® system is measured and adjusted with the DA-100 NT® system (except the MAS-100 CG Ex® system), which is directly traceable to standards from NIST. Traceability is not a guarantee of measurement accuracy, it is a chain of documentation between the last measurements made, linking it to the referenced standard. The uncertainty (accuracy) of a measurement is determined by the combined uncertainties of all measurements made by devices between the referenced standard and the device being calibrated, this is called the "chain of comparisons". With each link in the chain, additive uncertainty occurs. To minimize uncertainty and maintain accuracy the number of links in the chain of comparison must be minimized and the uncertainty for each link must be documented. You can have the confidence when monitoring critical environments that every sample volume collected is accurate.



Ordering information	Ord. No.
MAS-100 NT® air sampler	1 09191.0001
with hard carrying case, battery, 300-hole perforated lid, dust cover, mains charger, USB cable, 3 mm allen key, and operator's manual	
MAS-100 NT® Perforated Lid, Aluminum, 300-hole	1.09195.0001
MAS-100 NT® Perforated Lid, Aluminum, 400-hole	1.09088.0001
MAS-100 NT® Dust Cover, Aluminum	1.09084.0001
MAS-100 NT® Li-Ion Battery	1.09208.0001
MAS-100 NT® Mains Charger	1.09200.0001
MAS-100 NT Ex® air sampler, explosion proof	1.09194.0001
with hard carrying case, battery, 300-hole perforated lid, dust cover, mains charger, USB cable, 3 mm allen key, and operator's manual on CD	
MAS-100 NT Ex® Perforated Lid, Aluminum, 300-hole	1.09195.0001
MAS-100 NT Ex® Perforated Lid, Aluminum, 400-hole	1.09088.0001
MAS-100 NT Ex® Dust Cover	1.09084.0001
MAS-100 Eco® air sampler	1.09227.0001
with hard carrying case, battery, 400-hole perforated lid, dust cover, mains charger, 3 mm allen key, and operator's manual on CD	
MAS-100 Eco® Perforated Lid, Aluminum, 400-hole	1.09088.0001
MAS-100 Eco® Dust Cover, Aluminum	1.09084.0001
MAS-100 Eco® Mains Charger	1.09128.0001
MAS-100 Eco® Tripod Adapter	1.09127.0001
MAS-100 Eco® Dust Cover	1.09084.0001
MAS-100 CG Ex® air sampler	1.09327.0001
with sampling head (100 L/min), hose, mains charger, operator's manual on CD	
MAS-100 CG Ex® Sampling Head	1.09237.0001
MAS-100 Iso MH® Control unit, 1 head	1.17174.0001
MAS-100 Iso MH® Control unit with Profibus, 1 head	1.17177.0001
MAS-100 Iso MH® Control unit with Ethernet, 1 head	1.17178.0001
MAS-100 Iso MH® Control unit, 2 heads	1.17118.0001
MAS-100 Iso MH® Control unit with Profibus, 2 heads	1.17144.0001
MAS-100 Iso MH® Control unit with Ethernet, 2 heads	1.17145.0001
MAS-100 Iso MH® Control unit, 3 heads	1.17146.0001
MAS-100 Iso MH® Control unit with Profibus, 3 heads	1.17147.0001
MAS-100 Iso MH® Control unit with Ethernet, 3 heads	1.17148.0001
MAS-100 Iso MH® Control unit, 4 heads	1.17149.0001
MAS-100 Iso MH® Control unit with Profibus, 4 heads	1.17155.0001
MAS-100 Iso MH® Control unit with Ethernet, 4 heads	1.17157.0001
MAS-100 Iso NT® isolator system	1.09168.0001
MAS-100 Iso NT® Control unit with Profibus	1.09173.0001
MAS-100 Iso NT® Control unit with Ethernet	1.09174.0001
MAS-100 VF®	1.17103.0001
MAS-100 VF® Power supply	1.17104.0001
MAS-100 VF® Petri dish clamps, 3	1.17171.0001
Quick Adaptor for Tripod	1.09223.0001

Ordering information	Ord. No.
Accessories	
MAS-100 Iso NT® IP54 Kit	1.17159.0001
MAS-100 Iso NT® Perforated lid, stainless steel, 300-hole edge protected	1.09189.0001
MAS-100 Iso NT® Perforated lid, stainless steel, 400-hole edge protected	1.09222.0001
MAS-100 Iso NT® Base for sampling head, stainless with Tri-Clamp® device and gasket	1.09328.0001
MAS-100 Iso NT® Easy clean base for sampling head, stainless steel, with 1 Tri-Clamp® device & 1 gasket	1.17091.0001
MAS-100 Iso NT® Tri-Clamp® device, stainless steel	1.09440.0001
MAS-100 Iso NT® Dust Cover, stainless steel	1.09644.0001
MAS-100 Iso NT® Remote Control	1.17181.0001
MAS-100 Iso NT® Elbow Joint with 2 Tri-Clamp® devices	1.17083.0001
MAS-100 Iso NT® Power Supply	1.17182.0001
MAS-100 Iso MH® Power Supply	1.09784.0001
MAS-100 Iso NT® Silicone Gasket	1.17084.0001
MAS-100 Iso NT® Pressure Test Kit	1.17085.0001
MAS-100 Iso NT® Silicone gaskets for easy clean base	1.17099.0001
4" Opticap® XL 4 Capsule Filters	KTGRA04TT3
5" Opticap® XL 5 Capsule Filters	KTGRA05TT1
M Air T® Isolator Tubing 3 m	ATBTUBE01
Tripod	1.09326.0001
Tripod adaptor for MAS-100 Eco® system	1.09127.0001
MAS-100® Mains Charger	1.09085.0001
MAS-100® Tube Adaptor	1.09224.0001
Contact Plate Adaptor	1.09214.0001
Perforated lid for Contact Plates	1.09213.0001
MAS-100® NiMH Battery Pack (for Version Vx or higher)	1.09229.0001
MAS-100® Power supply	1.09085.0001
MAS-100 Iso MH® RS232, cable 10 m	1.17098.0001

Note: The 300-hole perforated lid is compatible with legacy systems, but a specific calibration is required.

Validation Protocols (LT)	
MAS-100 VF® Functional testing (LT)	MAVFLTFT1
MAS-100 Iso NT® Validation Protocol (LT)	MAISLTVP1
MAS-100 Iso MH® Validation Protocol (LT)	MAMHLTVP1
MAS-100 NT® Validation Protocol (LT)	MANTLTVP1
MAS-100 CG Ex® Validation Protocol (LT)	MACGLTVP1

Ordering information		Ord. No.
RCS® High Flow Touch		1.44194.0001
Including power supply, serial RS232 cable, USB adapter, RCS® management software, rotor, protection cap, carrying case, calibration certificate, quick start guide, and user manual		
Docking Station		1.44256.0001
For recharging the integrated lithium-ion battery		
RCS® Compressed Gas Adapter Touch		1.44257.0001
Autoclavable adapter for microbial monitoring of compressed gases; designed for a pressure of 1 bar		
Nozzle Set for RCS® Compressed Gas Adapter		1.44235.0001
Set of five nozzles to extend the air inlet pressure from 1 bar to 0.1–7.0 bar		
Tripod		1.44209.0001
For use at heights up to three meters		
Table-top Tripod		1.44210.0001
For horizontal operation		
Adhesive Tapes		1.44208.0001
60 pieces, adhesive ring foils to seal the air inlet holes of the rotor during calibration		
Rotor		1.44196.0001
Spare part, autoclavable, each combination of sampler and rotor must be calibrated separately		
Protection Cap		1.44225.0001
Spare part (stainless steel), autoclavable. For protection of the rotor during air sampling		
Air Outlet Ring		1.44198.0001
Spare part, autoclavable		
Carrying Case		1.44150.0001
Spare part, aluminum carrying case with sections for the RCS® High Flow Touch Microbial air sampler, two rotors, power supply, serial cable, USB adapter, documentation and Agar Strips		
Power Supply		1.44145.0001
Spare part, for recharging the integrated battery, including country-specific power cord		
Serial Cable		1.44207.0001
Spare part, for connecting with a PC via the serial RS232 interface		
USB Adapter		1.44152.0001
Spare part, for connecting with a PC via the USB interface		
Spare Part Set		1.44200.0001
Bag containing spare protection caps (electrical sockets for the docking station and power supply, the serial interface, and the tripod) and housing feet		
HYCON® agar strips		
TC	50 strips	1.44253.0050
Tryptic Soy Agar for determination of the total count		
TSM	50 strips	1.44240.0050
Modified Tryptic Soy Agar with neutralizers against disinfectants and growth supplements; for identification of the total count of fastidious and sublethally damaged microorganisms		
TC-y	40 strips	1.44226.0040
Gamma-irradiated Tryptic Soy Agar, double-wrapped; for determination of total count in aseptic environments		
TCl-y	40 strips	1.44228.0040
Gamma-irradiated Tryptic Soy Agar with neutralizers, double-wrapped; for determination of total count in aseptic environments and in peroxide-containing air		

Ordering information		Ord. No.
PEN-y	40 strips	1.44109.0040
Gamma-irradiated Tryptic Soy Agar with Penase; for determination of total count in penicillin-containing air in aseptic environments		
LAC-y	40 strips	1.44108.0040
Gamma-irradiated Tryptic Soy Agar with broad-spectrum cephalosporinase; for determination of total count in aseptic environments containing antibiotics		
YM	50 strips	1.44242.0050
Rose Bengal Agar with streptomycin; for determination of yeasts and molds		
SDX	50 strips	1.44243.0050
Sabouraud Dextrose Agar with modified pharmacopoeia formulation; for determination of yeasts and molds		
SDX-y	40 strips	1.44244.0040
Sabouraud Dextrose Agar with modified pharmacopoeia formulation; for determination of yeasts and molds in aseptic environments		
DG-18	25 strips	1.44245.0025
Dichloran Glycerine Agar; for determination of yeasts and molds		
S	25 strips	1.44102.0025
Mannitol Salt Agar; for determination of staphylococci		
C	25 strips	1.44099.0025
MacConkey Agar; for determination of coliform bacteria		
Agar strip accessories		
HYCON® blank strip kit	50 strips	1.44107.0050
Empty strips for manual production of culture media for special applications		
HYCON® cover slides	100 slides	1.44111.0100
Cover slides for Agar Strips to prevent desiccation during incubation		

Ordering information	Qty.	Ord. No.
90 mm Settle Plates (triple bagged, gamma-irradiated, non-lockable)		
SDA +LT - ICR 30 mL (with neutralizers lecithin, Tween® 80 surfactant, filled in pink plates)	20	1.46081.0020
SDA +LTHTh - ICR 30 mL (with neutralizers lecithin, Tween® 80 surfactant, histidine, sodium thiosulfate, filled in pink plates)	20 120	1.46005.0020 1.46005.0120
SDA selective +LTHTh - 30 mL ICR (with neutralizers lecithin, Tween® 80 surfactant, histidine, sodium thiosulfate, antibiotics against bacteria, filled in pink plates)	20 120	1.46016.0020 1.46016.0120
TSA - ICR 30 mL	20 120	1.46001.0020 1.46001.0120
TSA +LT - ICR 30 mL (with neutralizers lecithin, Tween® 80 surfactant)	20 120	1.46050.0020 1.46050.0120
TSA +LTHTh - ICR 30 mL (with neutralizers lecithin, Tween® 80 surfactant, histidine, sodium thiosulfate)	20 120	1.46069.0020 1.46069.0120
TSA +LT+ Cephase - ICR (with neutralizers lecithin, Tween® 80 surfactant, β-lactamases for inactivation of penicillins, all generations of cephalosporins and carbapenems)	20 120	1.46076.0020 1.46076.0120
TSA +LTHTh + Penase - ICR 30 mL (with neutralizers lecithin, Tween® 80 surfactant, histidine, sodium thiosulfate, penase for inactivation of penicillins)	120	1.46013.0120
150 mm Settle Plates	18	1.46778.0018
TSA +LTHTh - ICR 15 cm (3 plates, each triple-packed - with neutralizers lecithin, Tween® 80 surfactant, histidine, sodium thiosulfate)		
Accessories		
Plate Rack for settle plates (stainless steel rack for 10 x 90 mm plates)	1	1.46519.0001

90 mm Settle Plates (triple bagged, gamma-irradiated, lockable)		
TSA +LTHTh 90 mm ICR+	20 120	1.46683.0020 1.46683.0120
TSA +LT 90 mm ICR+	20 120	1.46684.0020 1.46684.0120
TSA 90 mm ICR+	20 120	1.46685.0020 1.46685.0120
Chocolate Agar + LTH 90 mm ICR+	20	1.46686.0020
TSA +LT +Cephase-ICR+ 90 mm	20 120	1.46700.0020 1.46700.0120
TSA +LTHTh +Penase-ICR+ 90 mm	20 120	1.46701.0020 1.46701.0120
SDA +LTHTh-ICR+ 90 mm	20 120	1.46702.0020 1.46702.0120

Ordering information	Qty.	Ord. No.
90 mm Settle Plates (single bagged, non-lockable)		
SDA - LI acc. EP	20 120	1.46028.0020 1.46028.0120
SDA + Chloramphenicol - LI 30 mL	20 120	1.46003.0020 1.46003.0120
SDA +LTHTh - LI 30 mL (with neutralizers lecithin, Tween® 80 surfactant, histidine, sodium thiosulfate)	20 120	1.46052.0020 1.46052.0120
TSA - LI 30 mL EP+USP	20 120	1.46004.0020 1.46004.0120
TSA +LTHTh - LI 30 mL (with neutralizers lecithin, Tween® 80 surfactant, histidine, sodium thiosulfate)	20 120	1.46002.0020 1.46002.0120
Accessories		
Plate Rack for settle plates (stainless steel rack for 10 x 90 mm plates)	1	1.46519.0001
55 mm Contact Plates (triple bagged, gamma-irradiated, non-lockable)		
SDA Contact +LTHTh - ICR (with neutralizers lecithin, Tween® 80 surfactant, histidine, sodium thiosulfate, filled in pink plates)	200	1.46201.0200
TSA Contact +LT - ICR (with neutralizers lecithin, Tween® 80 surfactant)	20 200	1.46195.0020 1.46195.0200
TSA Contact +LTHTh - ICR (with neutralizers lecithin, Tween® 80 surfactant, histidine, sodium thiosulfate)	20 200	1.46231.0020 1.46231.0200
TSA Contact + Penase +LTHTh - ICR (with neutralizers lecithin, Tween® 80 surfactant, histidine, sodium thiosulfate, penase for inactivation of penicillins)	20 200	1.46153.0020 1.46153.0200
Accessories		
Plate Rack for contact plates (stainless steel rack for 10 x 55 mm plates)	1	1.46502.0001
55 mm Contact Plates (triple bagged, gamma-irradiated, lockable)		
Chocolate Contact Agar +LTH - ICR+ (with neutralizers lecithin, Tween® 80 surfactant, histidine, supports growth of fastidious aerobic and anaerobic microorganisms)	20	1.46555.0020
SDA Contact +LTHTh - ICR+ (with neutralizers lecithin, Tween® 80 surfactant, histidine, sodium thiosulfate; filled in pink plates)	20 200	1.46501.0020 1.46501.0200
SDA Contact +LTHTh selective - ICR+ (with neutralizers lecithin, Tween® 80 surfactant, histidine, sodium thiosulfate, irradiation-resistant antibiotics to inhibit bacterial growth, filled in pink plates)	20 200	1.46538.0020 1.46538.0200
TSA Contact +LT - ICR+ (with neutralizers lecithin, Tween® 80 surfactant)	20 200	1.46552.0020 1.46552.0200
TSA w. LTHThio cont. - ICR+	20 200	1.46783.0020 1.46783.0200
TSA Contact +LT+ Cephase - ICR+ (with neutralizers lecithin, Tween® 80 surfactant, β-lactamases for inactivation of penicillins, all generations of cephalosporins and carbapenems)	20 200	1.46539.0020 1.46539.0200
TSA Contact +LTHTh + Penase - ICR+ (with neutralizers lecithin, Tween® 80 surfactant, histidine, sodium thiosulfate, penase for inactivation of penicillins)	20 200	1.46553.0020 1.46553.0200
Vegetable Contact Agar +LTHTh - ICR+ (with neutralizers lecithin, Tween® 80 surfactant, histidine, sodium thiosulfate)	20 200	1.46601.0020 1.46601.0200
Swabs		
ICR swab	100	1.46529.0100
Accessories		
Swab Rack (stainless steel)	1	1.46530.0001

Ordering information	Qty.	Ord. No.
55 mm Contact Plates (single bagged, lockable and non-lockable)		
Malt Extract Agar Contact - RT	20	1.46191.0020
Plate Count Agar Contact - RT	20	1.46154.0020
SDA Contact+ Chloramphenicol - RT+ (lockable plate)	20	1.46549.0020
TSA Contact - RT	20	1.46240.0020
TSA Contact +LTH - RT (with neutralizers lecithin, Tween® 80 surfactant, histidine)	20	1.46200.0020
TSA Contact +LTH - RT+ (with neutralizers lecithin, Tween® 80 surfactant, histidine, lockable plate)	20	1.46554.0020
HYCON® contact slides (gamma-irradiated)		
Contact Slides TC-y	20	1.44022.0020
Gamma-irradiated Tryptic Soy Agar, double wrapped; for determination of total count in aseptic environment; with neutralizers (lecithine, sorbitol monooleate complex, Tween® 80 surfactant) and growth supplements.	100	1.44022.0100
Contact Slides DE-y	20	1.44021.0020
Gamma-irradiated, modified Dey Engley Agar (D/E Agar), double-wrapped; for determination of total count in aseptic environments; with neutralizers (lecithin, sorbitol monooleate complex, sodium thioglycolate, sodiumbisulfite) and growth supplements.		
Contact Slides PEN-y	100	1.44014.0100
Gamma-irradiated Tryptic Soy Agar with Penase, double-wrapped; for determination of total count in penicillin-containing air; with neutralizers (lecithin, L-histidine, sorbitol monooleate complex, Tween® 80 surfactant) and growth supplements.		
Contact Slides LAC-y	100	1.44015.0100
Gamma-irradiated Tryptic Soy Agar with penase and a broad-spectrum cephalosporinase, double-wrapped; for determination of total count in environments with antibiotics containing air; with neutralizers (lecithin, L-histidine, sorbitol monooleate complex, Tween® 80 surfactant) and growth supplements.		
Contact Slides SDX-y	20	1.44016.0020
Gamma-irradiated Sabouraud Dextrose Agar with modified pharmacopoeia formulation, double-wrapped; for determination of yeasts and molds in aseptic environments; with neutralizers (Tween® 80 surfactant, L-a-phosphatidylcholine) and growth supplements.		
HYCON® contact slides (single bagged)		
Contact Slides TC	20	1.44023.0020
Tryptic Soy Agar; for determination of the total count; with neutralizers (lecithin, L-histidine, sorbitol monooleate complex, Tween® 80 surfactant) and growth supplements.	100	1.44023.0100
Contact Slides YM	20	1.44018.0020
Rose Bengal Agar with streptomycin and chloramphenicol; for determination of yeasts and molds; with growth supplements.		
Contact Slides SDX	20	1.44017.0020
Sabouraud Dextrose Agar with modified pharmacopoeia formulation; for determination of yeasts and molds; with neutralizers (Tween® 80 surfactant, L-a-phosphatidylcholine) and growth supplements.		
Contact Slides C	20	1.44019.0020
Mac Conkey Agar; for determination of coliform bacteria; with growth supplements.		

Ordering information	Ord. No.
IsoBag® rapid transfer bag	
IsoBag® TSA+LT Contact for 190 mm alpha-port 10 x 10 Contact Plates 146195, 55 mm irradiated	1.46784.0100
IsoBag® TSA+LTHTh Contact for 190 mm alpha-port; 55 mm Contact Plates; irradiated	1.46754.0100
IsoBag® TSA+LTHThio Contact+ for 190 mm alpha-port lockable 55 mm Contact Plates irradiated	1.46753.0100
IsoBag® TSA+LT Settle+ for 190 mm alpha-port 8 x 10 lockable Settle Plates 146684, irradiated	1.46785.0080
IsoBag® TSA+LTHTh Settle+ for 190 mm alpha-port 90 mm Settle Plates irradiated	1.46756.0080
IsoBag® TSA+LTHTh Settle+ for 190 mm alpha-port 90 mm lockable Settle Plates irradiated	1.46755.0080

To Place an Order or Receive Technical Assistance

Find contact information for your country at
EMDMillipore.com/Offices

For Technical Service, please visit
EMDMillipore.com/TechService

EMDMillipore.com/EnvironmentalMonitoringSolutions

We provide information and advice to our customers on application technologies and regulatory matters to the best of our knowledge and ability, but without obligation or liability. Existing laws and regulations are to be observed in all cases by our customers. This also applies in respect to any rights of third parties. Our information and advice do not relieve our customers of their own responsibility for checking the suitability of our products for the envisaged purpose.

