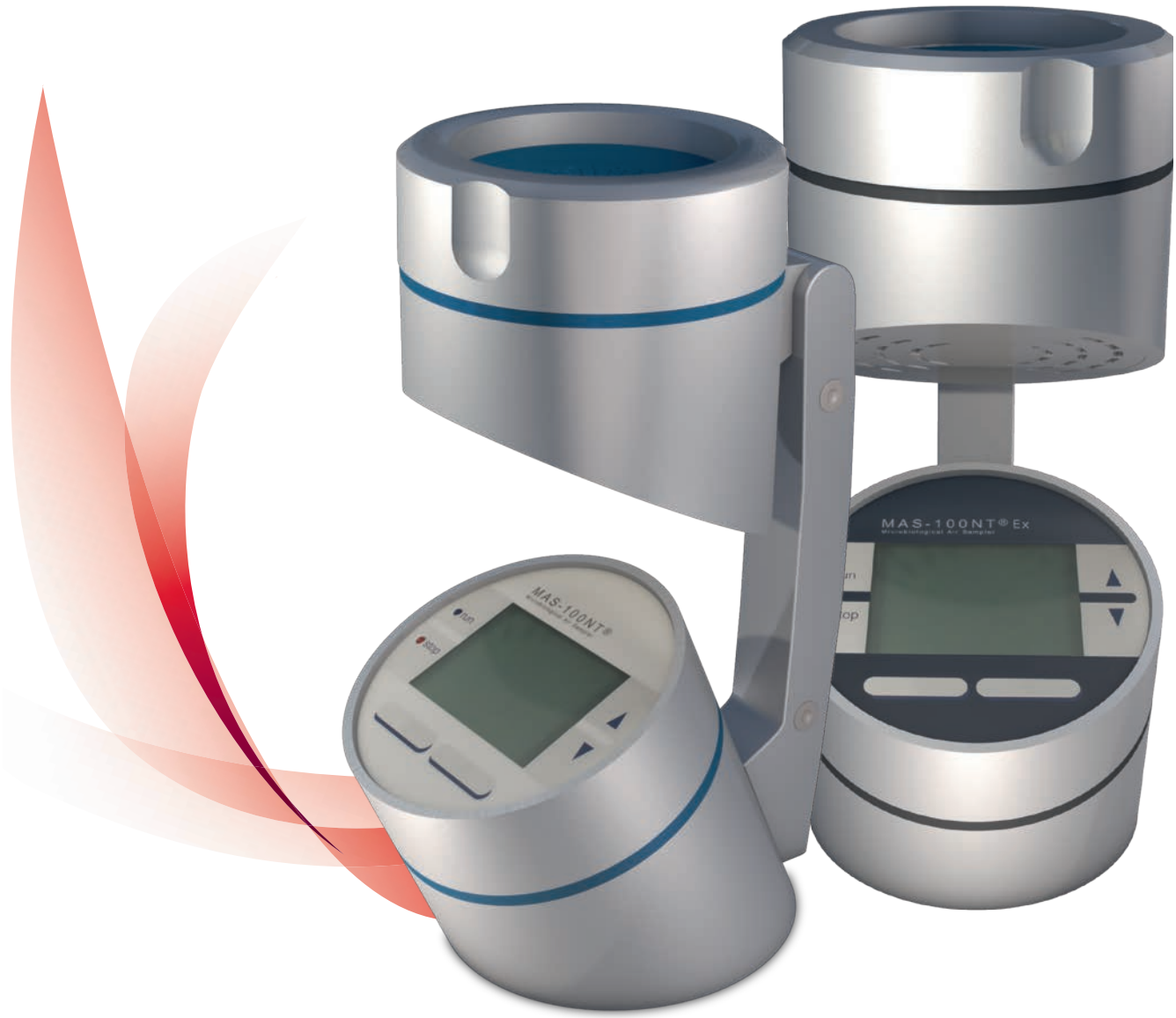
# There is more to clean environments than meets the eye.
# Leading solutions for air monitoring.

## The MAS-100 NT® & MAS-100 NT® Ex

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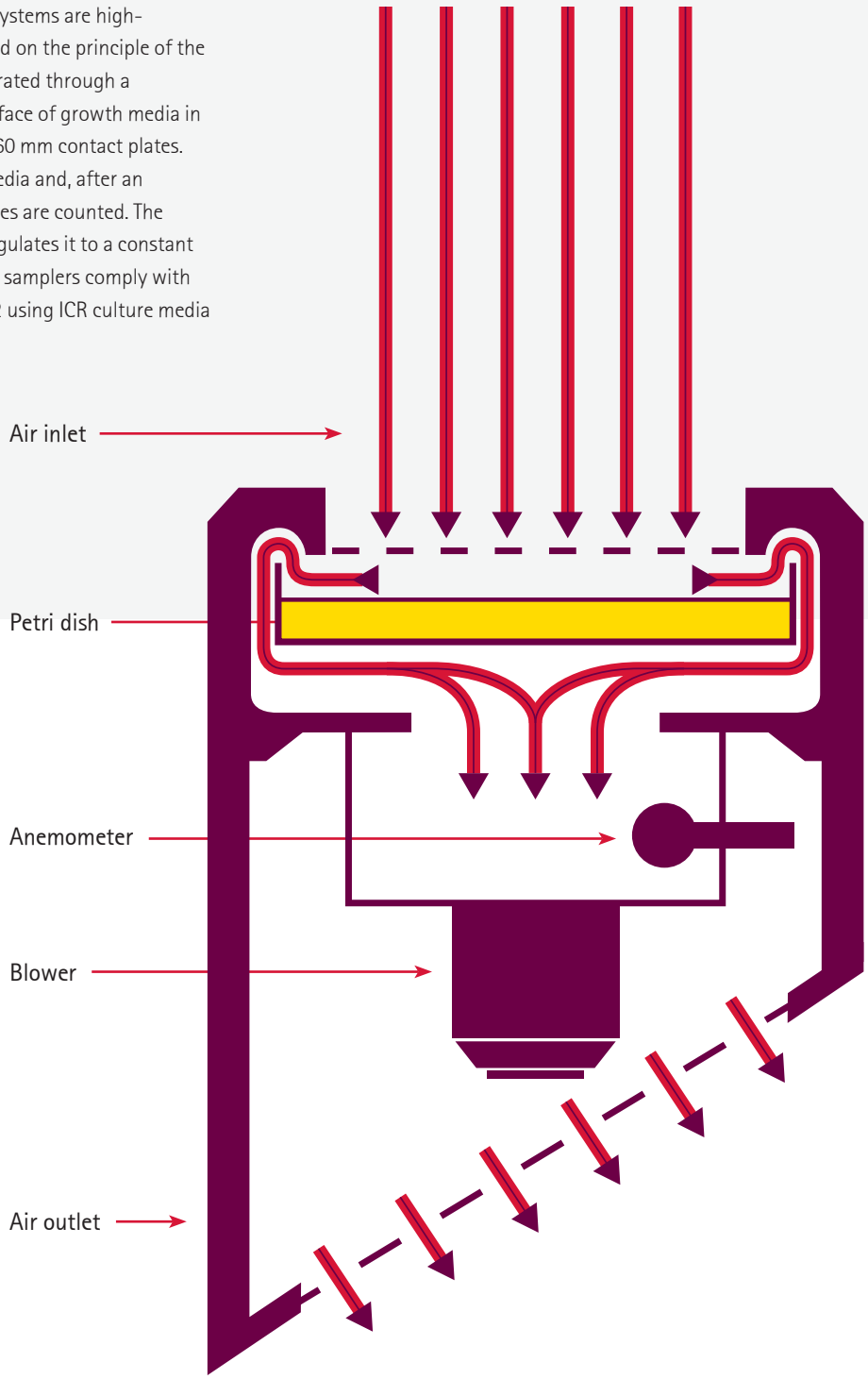
## Basic Principle

The MAS-100® microbial air monitoring systems are high-performance instruments which are based on the principle of the Andersen air sampler. Ambient air is aspirated through a perforated lid and impacted onto the surface of growth media in standard 90-100 mm Petri dishes or 55-60 mm contact plates. Microorganisms adhere to the culture media and, after an appropriate incubation period, the colonies are counted. The system measures the inflow of air and regulates it to a constant value of 100 liters/min. All MAS-100® air samplers comply with the guidelines of ISO 14698 parts 1 and 2 using ICR culture media and fully meet the d50 requirements.



## Overview

The MAS-100 NT® and MAS-100 NT® Ex portable microbial air samplers are the leading instruments 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® systems feature a 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 50-60 mm contact plates allowing for a low consumable cost and great flexibility. Sampling at 100 LPM, 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 liters. The units have a horizontal air flow velocity of 0.45 meters per second 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.
A programmable start delay of up to 60 minutes allows for personnel to be out of the sampling area when the sampling starts and an audible alarm indicates the interruption of a sampling cycle. The MAS-100 NT® is powered by a Lithium ion rechargeable battery with an intelligent charging program that assures long battery life without routine discharging.
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 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 has received ATEx Conformity and can be used in zone 2 and gas groups 11A,11B, and 11C in temperature classes T1 to T4.

## Advantages

- Compact design
- Improved security features and enhanced connection possibilities
- Very easy to handle
- Hardware and software developed according to GAMP 4
- Fully validated system using ICR plates
- Improved communication (including RS-232 and USB ports)
- Alarm and sample log records of the last 100 events can be exported or printed at any time
- Mass flow is measured and ensures a flow of 100 LPM
- Validated according to the EN ISO 14698 standard
- Fully meets the d50 requirements using the 300 x 0.6 mm sampling head

## Technical Specification

| Feature | Specification |
|---|---|
| Height | 25 cm |
| Diameter | 11 cm |
| Weight | 2.38 kg |
| Material | Anodized aluminum |
| Nominal airflow | 100 SLPM ±2.5 % (standard litres per minute) |
| Pre-set sampling volumes | 50, 100, 250, 500 and 1,000 litres |
| User defined sampling volume range | 1 to 2,000 litres, in increments of 1 liter |
| Battery pack | Li-ion, rechargable battery pack |
| Charging time | Full recharge time approx. 3.5 hours |
| Running time | Total running time up to 7 hours |
| Total aspiration volume | Approx. 42,000 liters |
| Motor | 6 V |
| Display | Backlit liquid crystal display |
| Battery | RTC (Real Time Clock) battery; lifetime of approx. 10 years |
| Driving motor | PWM (Pulse Width Modulation) frequency for driving motor |
| Airflow regulation | Hot wire anemometer, numerical control, temperature and pressure sensors |
| CE approval | Emission: EN 61326-1:2006, EN 55011:1998+A1:99<br>Immunity: EN 61326-1:2006, EN 61000-4-2:1995 + A1:98 +A2:01, EN 61000-4-3:2002, EN 61000-4-4:1995 + A1:01 +A2:01, EN 61000-4-5:1995 + A1:01, EN 61000-4-6:1996 + A1:01, EN 61000-4-8:1993 + A1:0 |
| Power unit / battery charger | 110-240 V, 50-60 KHz |
| Data exchange | USB interface |

Note: Specifications for the MAS-100 NT® Ex are similar to the above.


## Ordering Information

| Description | Catalog No. |
|---|---|
| MAS-100 NT® | 1.09191.0001 |
| MAS-100 NT® Ex Air Sampler Explosion Proof | 1.09194.0001 |

## Accessories

| Description | Catalog No. |
|---|---|
| MAS-100® Extra Dust Cover | 1.09084.0001 |
| Perforated lid for MAS-100 NT® (300 x 0,6 mm) | 1.09195.0001 |
| MAS-100 NT® Perforated Lid, Aluminum, 400-hole | 1.09088.0001 |
| MAS-100® Tripod | 1.09326.0001 |
| MAS-100® Tripod Adapter – Quick Connect | 1.09223.0001 |
| MAS-100® Tube Adapter | 1.09224.0001 |
| MAS-100® Contact Plate Holder | 1.09214.0001 |
| MAS-100® Perforated Lid for Contact Plates | 1.09213.0001 |
| MAS-100 Ex® Extra Dust Cover | 1.09123.0001 |
| Main Charger for MAS-100 NT® | 1.09200.0001 |
| Battery pack Li-Ion for MAS-100 NT® | 1.09208.0001 |

## Related Products

| ICR Settle Plates (triple-bagged, gamma-irradiated, non-lockable) | Package size | Ord. No. |
|---|---|---|
| Sabouraud Dextrose Agar – ICR | 20<br>120 | 1.46577.0020<br>1.46577.0120 |
| Sabouraud Dextrose Agar + LT – ICR<br>(SDA with lecithin and (Tween®) 80) | 20<br>120 | 1.46081.0020<br>1.46081.0120 |
| Sabouraud Dextrose Agar + LTHTh – ICR 30ml<br>(SDA with lecithin, (Tween®) 80, histidine and thiosulfate) | 20<br>120 | 1.46005.0020<br>1.46005.0120 |
| Sabouraud Dextrose Agar selective + LTHTh – ICR<br>(SDA with lecithin, (Tween®) 80, histidine and thiosulfate and irradiation-resistant antibiotics for growth inhibition of accompanying bacterial flora) | 20<br>120 | 1.46016.0020<br>1.46016.0120 |
| Tryptic Soy Agar – ICR | 20<br>120 | 1.46001.0020<br>1.46001.0120 |
| Tryptic Soy Agar + LT – ICR<br>(TSA with lecithin and (Tween®) 80) | 20<br>120 | 1.46050.0020<br>1.46050.0120 |
| Tryptic Soy Agar + LTHTh – ICR<br>(TSA with lecithin, (Tween®) 80, histidine and thiosulfate) | 20<br>120 | 1.46069.0020<br>1.46069.0120 |
| Tryptic Soy Agar + LT + Cephase – ICR<br>(TSA with lecithin and (Tween®) 80 and specific beta-lactamase mixture for inactivation of a broad spectrum of penicillins, cephalosporins and carbapenems) | 20<br>120 | 1.46076.0020<br>1.46076.0120 |
| Tryptic Soy Agar + LTHTh + Penase – ICR<br>(TSA with lecithin, (Tween®) 80, histidine, thiosulfate and beta-lactamase for inactivation of penicillins) | 20<br>120 | 1.46013.0020<br>1.46013.0120 |
| Vegetable Peptone Agar + LTHTh – ICR<br>(PSA (caseine peptone replaced by vegetable peptone) with lecithin, (Tween®) 80, histidine and thiosulfate) | 20<br>120 | 1.46658.0020<br>1.46658.0120 |

| ICRplus Settle Plates (triple-bagged, gamma-irradiated, lockable) | Package size | Ord. No. |
|---|---|---|
| TSA + LTHTh – ICR+<br>(Tryptic Soy Agar with neutralizers lecithin, (Tween®) 80, histidine and sodium thiosulfate) | 20<br>120 | 1.46683.0020<br>1.46683.0120 |
| TSA + LT – ICR+<br>(Tryptic Soy Agar with neutralizers lecithin and (Tween®) 80) | 20<br>120 | 1.46684.0020<br>1.46684.0120 |
| TSA – ICR+<br>(Tryptic Soy Agar) | 20<br>120 | 1.46685.0020<br>1.46685.0120 |
| Chocolate Agar + LTH – ICR+<br>(Chocolate Agar with neutralizers lecithin, (Tween®) 80 and histidine) | 20 | 1.46686.0020 |

## Related Services

**• Validation Protocols**

Save precious time with our comprehensive and regulations compliant validation protocols from validation master plan to final report.

**• IQ/OQ Services**

Simplify the execution of your IQ/OQ. Our highly trained validation engineers will execute the air sampler validation protocol for you, in your lab.

**• Service agreements**

Stay compliant and ensure reliability of your air sampler over time with our service agreements. Our service agreements include a yearly preventative maintenance, a new calibration certificate, and a performance report as well as extended warranty options. Our highly trained service engineers service your air sampler in our closest repair center or come into your lab to service your air sampler within a day.

Please contact your local sales representative for more information or a quotation.

## To Place an Order or Receive Technical Assistance

Find contact information for your country at:
**www.merckmillipore.com/offices**

For Technical Service, please visit:
**www.merckmillipore.com/techservice**

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