A9
Anesthesia system
All-round safety
Classic meets high-tech

With appreciation for established ways of working, the A9 retains many traditional features while also introducing some cutting-edge technologies to allow intuitive and safe management of the anesthetic procedure for broad patient populations.

Introducing the new safety
Mindray’s innovative electronic platform on the A9 empowers clinicians to ensure the safety of patients throughout peri-operative periods, from induction to recovery, to improve patient outcomes.

Less is more
With deep insights into the clinical workflow of the operating room, the A9’s user interface has been designed around clinicians for reduced workloads and maximum patient safety.

Together, stronger
The A9 provides flexible data integration to meet the demands of various clinical scenarios. Compatible with Mindray patient monitors and third-party clinical information systems, the A9 helps significantly enhance the workflow efficiency in the operating room.
Automatic Controlled Anesthesia (ACA)

ACA is based on A9’s new electronic platform that automatically adjusts the fresh gas and vaporizer output to quickly achieve the preset target end-tidal agent and inspiratory oxygen concentration.

- Direct setting of the target EtAA and FiO₂ reduces user interaction of fresh gas and vaporizer settings.

- Delivery of fresh gas and agent is adjusted cycle by cycle to rapidly respond to changes in patient status, keeping a stable level of anesthesia during surgery.

- Reduce cost by minimizing the consumption of fresh gas and anesthetic agents throughout the case.

Introducing the new safety

High Flow Nasal Cannula

High flow nasal cannula (HFNC) plays an important role in maintaining safe oxygen saturation of patients as it extends the safe apnoeic oxygenation time to 30 min during induction. HFNC can help clinicians intubate more easily, especially for patients with poor oxygen saturation such as bariatric, pediatric, critical ill or difficult airway.

- Direct setting of total flow and O₂ concentration with maximum flow up to 100 L/min.
- Built-in design with no additional gas or power source to remove clutter and save space.
- Quick start-up for emergency situations to improve patient saturation instantly.

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Time (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>With room-air</td>
<td>1-2</td>
</tr>
<tr>
<td>With traditional pre-oxygenation</td>
<td>8</td>
</tr>
<tr>
<td>With HFNC</td>
<td>14-30</td>
</tr>
</tbody>
</table>

The number of interventions to stabilize EtAA is at least 50% lower using automatic control mode.

References:
Innovative breathing system for ICU-level ventilation

The A9 introduces the volume exchanger (VE) as an innovative breathing system that brings extremely precise and reliable ventilation.

- Quick wash-in & wash-out by small system volume.
- Precise ventilation for all patients, from adults to neonates with tidal volume down to 5 ml.
- Showing the state of breathing system clearly by visual VE indicator.
- Less risk of malfunction with no moving components, providing extremely reliable and a greater service life.

Powerful protective ventilation toolkits to prevent PPCs

Powerful toolkits have been integrated into the A9 to support confident decision-making for protective ventilation, reducing the incidence of post-operative complications (PPCs) and improving patient outcomes.

- Transpulmonary pressure monitoring
  Independent monitoring for esophageal pressure, to support customized ventilation settings for individual patient.

- Lung Recruitment Tool
  Two optional maneuvers: stepwise PEEP or sustained inflation. Multiple criteria to evaluate recruitment effectiveness. A scheduled recruitment maneuver can be performed automatically.

- TV/IBW indicator
  TV/IBW can be calculated as the TV changes, which offers clinicians clear hint of appropriate tidal volume settings to avoid barotrauma.

Enjoy maximum performance through all stages of anesthesia

The A9 offers ventilation modes to meet different patients' demands throughout the peri-operative period.

- Adaptive Minute Ventilation Mode (AMV) allows easy switchover between controlled and spontaneous ventilation without extra adjustment.
Less is more

Automatic system check

Comprehensive
- Follows the ASA guidelines
- Checks various parts automatically to ensure proper functioning

Fast
- All checks completed in 3.5 minutes
- Scheduled system check to save preparation time

Simple
- No manual intervention required during system check
- Graphic display of error correction

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Customizable profiles for smart working

Configuration profiles can be customized and loaded easily for different clinical scenarios or use requirements, including default values, screen layout and system configuration.

Clear system status indicators
- Real-time system status display to help address malfunctions quickly.
- Clear prompts for certain scenarios, to allow easy viewing of the current working mode.

Light up the workspace
- Illumination around APL valve in manual mode, to make the current working mode more obvious.
- Lighting for workspace with adjustable angles and brightness, to satisfy the requirement for working in low light environments.

As anesthesiologists look at the monitor in 1- to 2-second glances, displays should be developed to optimize the information.

A green operating room

The A9 employs anesthetic gas reduction strategies during surgery to provide both environmental and economic benefits.

**Optimizer**
A series of clinical decision-support tools including Optimizer, AA Prediction and ACA, can advise clinicians of the lower fresh gas flow.

**AA measurement**
This helps the delivery of low flow anesthesia by monitoring real-time anesthetic agent consumption during and after surgery.

**Flow Pause**
Flow Pause prevents unnecessary leaks of anesthetic gases into the operating room during intubation, suction and other operations.

**e-AGSS system**
e-AGSS monitors the scavenging flow rate and indicates abnormalities, automatically switches off when in standby to reduce energy consumption.

Together, stronger

Integration

Highly flexible integration options allow the A9 to work together with a variety of devices, including patient monitors, infusion pumps and information systems, to meet diverse clinical needs.

Connectivity

As a part of the IT solution, the A9 offers information connectivity safety and seamlessly to streamline clinical workflows.

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**Using desflurane for 1 hour is equivalent to 235-470 miles of driving.**

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