

# COMEN

## OR Comprehensive Solution

Comen is able to provide the medical device for OR, including the AX series anesthesia machine, C series plug-in monitor, M series syringe pump, D series ceiling pendant, L series surgical light and S series defibrillation monitor, etc. Meanwhile Comen also provides software services: intelligent operating room Smart - OR. It comprehensively improves the work environment and medical conditions of operating room, which takes your operating room into the information age.



AX-900 Anesthesia Machine

CE 0120



**Shenzhen Comen Medical Instruments Co., Ltd.**

P/N: EN-AX900-12P-20190708-V1.0

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# Persistence and Surpass

The core of anesthesia machine is incorporated by three characteristics: Safety, Comfortability and Accuracy.

Medical innovation must be consistent with actual needs and contribute to clinical experiences.

AX- 900 has adhered to develop classic pneumatic drive electronic control technology. For the ventilators, we adapt advanced pneumatic components to ensure its safety and improve the stability, which make the accurate ventilation come true. Comen is able to provide more comprehensive and precise data for clinic through continuously improved respiratory monitoring function, at the same time, more intelligent ventilation mode and more abundant breathing parameter adjustment are achieved through the combination of advanced electronic control technology and fluid control technology.

AX- 900 adheres to the classic gas control method and also possess the accuracy as well as convenience of advanced electronic monitoring and control.

Safety is not only reflected in the stability of ventilation, but also in quality control management. AX-900 has designed a number of quality control processes for the use of inhaled anesthetics, fresh gases and soda lime, which enables medical staff to avoid risks in operation and solve hidden dangers before the alarm.



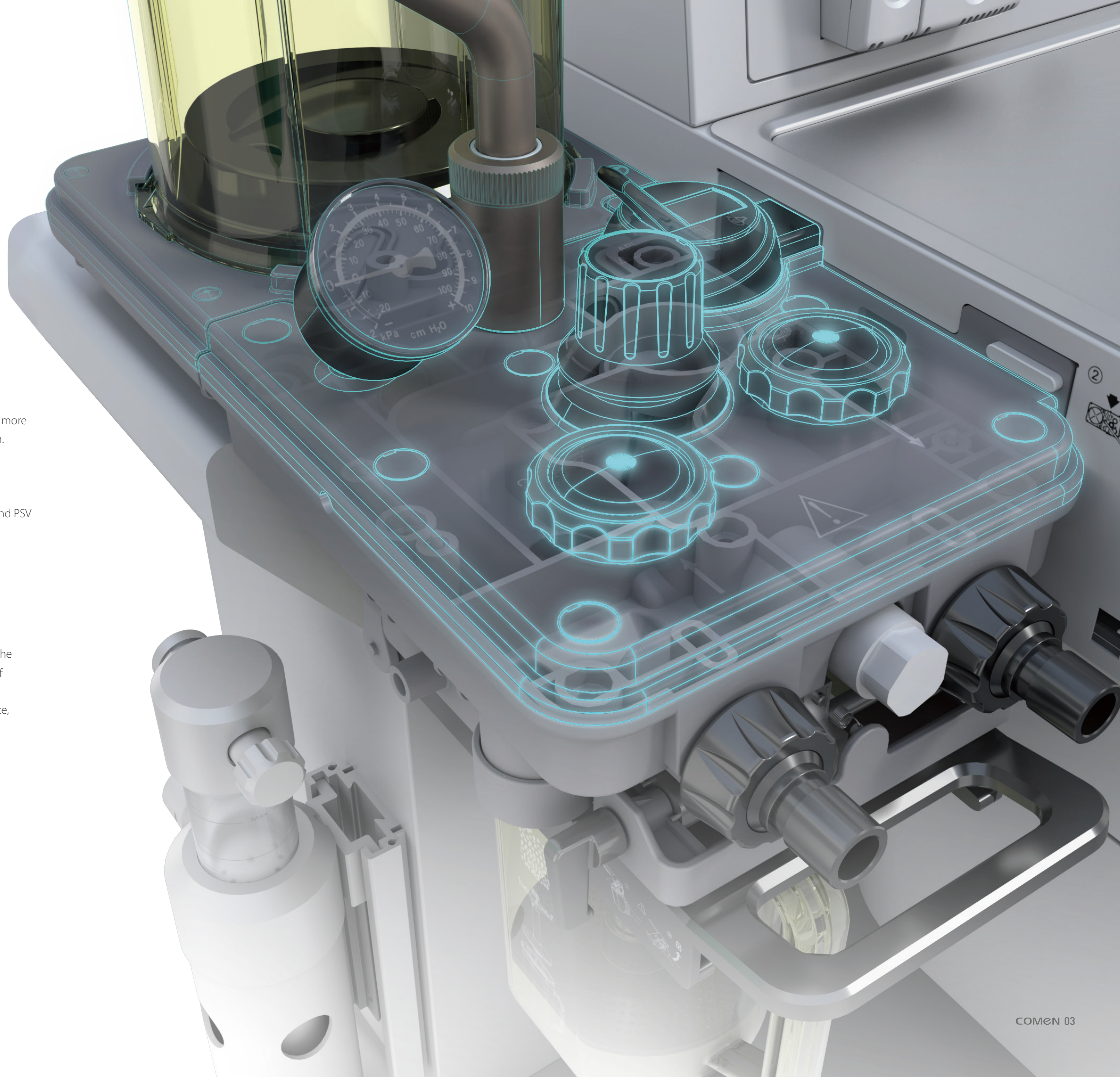


## Persistence

### Why Insist On the Classic Ascending Bellows Pneumatic Drive Electronic Control Technology?

- The ascending bellows pneumatic electronic control technology provides a more compact circuit and a smaller loop cavity, which realizes accurate ventilation.
- Simple structure is convenient for disassembly and disinfection.
- Manual ventilation is separated from mechanical ventilation to reduce the occurrence of misoperation.
- Provides more stable ventilation and sharper triggering under SIMV mode and PSV mode.
- No need to pre-inflate, machine will ventilate when you start it up, which is conducive to rapid rescue.
- Provide higher compression capacity.
- PEEP facilitates lung protection and recruitment maneuvers

The ascending bellows is not only a driving tool, but also a visible "lung". In the past few years, doctors have been and relied on observing the movement of the bellows to determine the state of motion of the lungs and then decide whether to adjust the ventilation mode or not. As the ventilation drive source, the bellows is the most direct and accurate observation way.





# Breakthrough

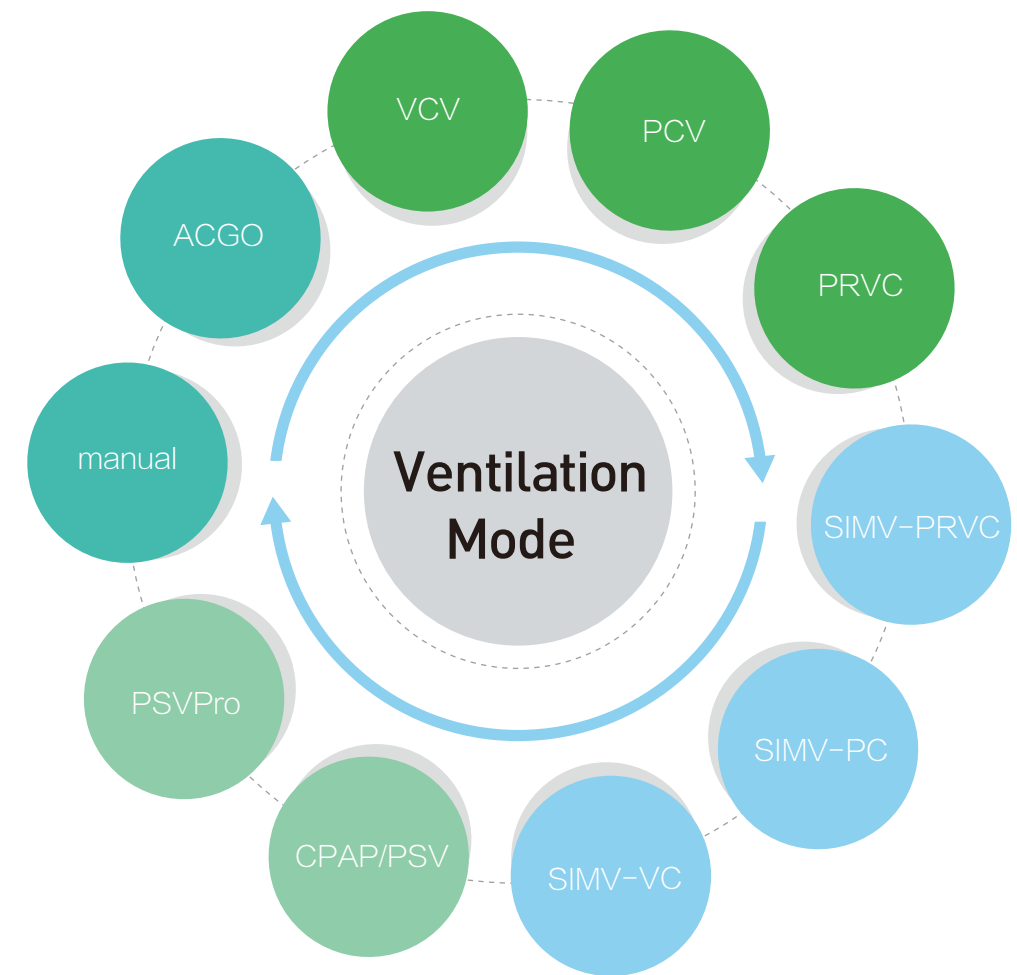
## Breakthrough of Pneumatic Drive Electronic Control Technology:

AX-900 adheres to the mature pneumatic electronic control technology of AX series, and has made breakthroughs in precision. At present, AX-900 can perform a 5ml low tidal volume ventilation under PCV mode during infant anesthesia, and the maximum tidal volume can reach 1500ml, coupled with stable pressure control enable AX-900 to achieve full age coverage. At the same time, the low tidal volume error is lower to less than 5ml. The use of the latest fluid control hardware with a new dynamic tidal volume compensation algorithm, makes doctors' dream come true. The breathing circuit structure is improved, and the circuit leakage is less than 65 ml/min. Supreb stability reduces the amount of anesthetic gas inhaled by the operator and reduces the harm of the halothane to the doctor.



- New advanced auxiliary air supply tools are available to support non-pure oxygen supply and high pressure jet ventilation.
- AX-900 integrated negative pressure drainage system, converts positive air pressure into suction negative pressure through the Venturi effect.

In terms of ventilation, AX-900 provide four kinds of control ventilation modes, three kinds of SIMV modes and two kinds of pressure support ventilation modes, providing more professional ventilation modes for anesthesia induction, maintenance, recovery and spontaneous breath exercise.

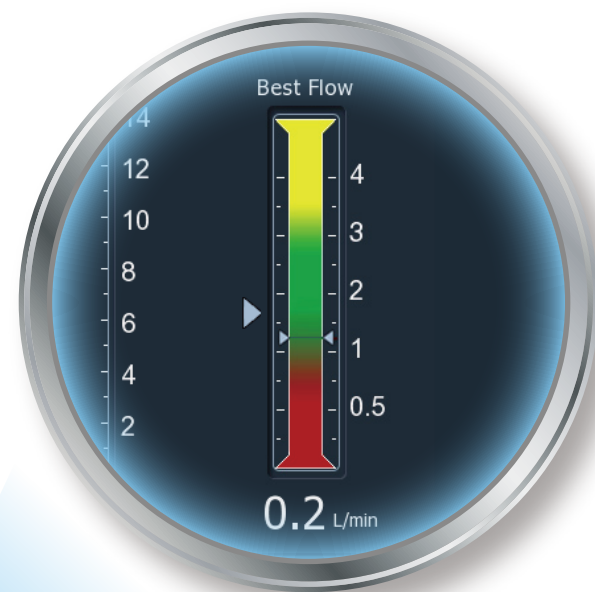


Intelligent SIMV-PRVC mode: The target tidal volume is ensured by PCV ventilation during the anesthesia maintenance stage. In the recovery stage, it automatically switches to SIMV ventilation mode to reduce man-machine confrontation. After the patient's spontaneous breathing is stabilized, the PSV mode is automatically turned on and performed the spontaneous breathing exercise. During the operation, AX-900 provides safer ventilation and non-uniform breathing, which is closer to normal breathing and ensuring adequate tidal volume. Through the combined application of SIMV+PS during the recovery stage, the recovery cycle can be greatly accelerated and patients can be withdrawn from machine as soon as possible. SIMV-PRVC is a future-oriented ventilation mode.

# Surpass

## Advanced Fresh Gas Control System :

AX-900 achieved fresh gas electronic closed-loop control. Anesthesia doctors is able to set oxygen concentration directly, then the system automatically adjust the ratio of oxygen gas and balance gas. AX-900 can also realize real-time correction of oxygen concentration and total flow, correcting flow error that caused by fluid inertia.



AX-900 also provides a Best Flow Indicator Tool that gives accurate flow of current anesthesia ventilation. It improves the efficiency of anesthesia, implements precise anesthesia, and anesthesiologists can try low-flow anesthesia accordingly. The Best Flow Indicator Tool uses the color spectrum diagram to fit the design idea of alarm color, and more intuitively present the current flow value.

## Why Should We Change the Operation Method of Electronic Flow Meter?

AX-900 has also revolutionized the operation of fresh gas control, adopting an 8-inch LED touch screen for independent operation. Compared to the traditional integration of the operating area on the main control panel, the independent control panel provides better clarity and abundant flow information for the clinic. In addition, AX-900 adopted the electronic gas source pressure gauge, which is more accurate than the traditional mechanical gauge, and has no effect of pointer inertia.



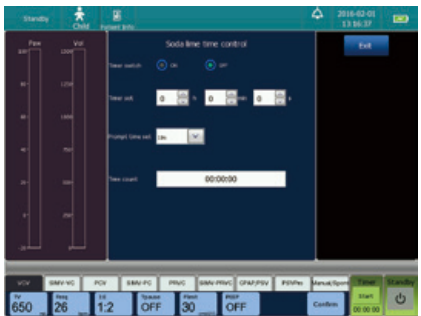
# Quality Control Management

Quality control of anesthesia surgery is an important part in the hospital. In order to improve the quality of anesthesia surgery, AX-900 has made multiple risk quality control in equipment's inspection and operation. In case of misoperation, equipment failure, exhaustion of gas source/consumables, etc., early warning will be given to urge the anesthesiologist to check and handle the hidden dangers before the alarm occurs.

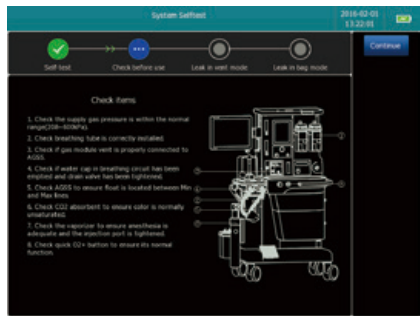
- Power-on self-test and leak test system: simpler design provide more convenience for medical staff
- Intraoperative anesthetic gas usage statistics: easy for medical staff to know the cumulative dose of medication
- Statistics of soda lime consumption: early warning of the consumption of soda lime to prevent CO2 retention
- Ventilator risk operation reminder: misoperation warning, risk operation prompt check, reduce operation accident.
- Shutdown delay: avoid accidental ventilation stop caused by misoperation.



Anesthetic use record



Soda lime use record



Self- test



Risk parameter change reminder

# Anesthesia Working Station



Anesthesia Machine: AX- 900

Patient Monitor: C90

Syringe Pump: M200

Anesthesia Clinical Information System: iWork- OR

AX-900 anesthesia machine working station provides a perfect platform for treatment, research and teaching with its unified operation mode, unified software setup logic, complete OR information recording and efficient operation.