The flexible new approach to anesthesia

KION
We saw room for revolutionary improvements in anesthesia

KION® represents a completely new approach to meeting today’s and tomorrow’s needs in anesthesia procedures. This modular, flexible system allows for all applications across a complete range of patients, and brings with it a new era in efficient healthcare management.

You would expect a new anesthesia system from Siemens to offer you the very highest standards of patient care. But KION offers you much more: it introduces new levels of efficiency for practitioners, healthcare managers and purchasing departments alike.

KION answers the need for a single system capable of delivering better patient security, better ergonomics and more flexibility in design. It allows you to choose from a range of optional Servo-controlled ventilation modes, enabling you to treat all patient categories. It offers you a comprehensive choice of optional monitoring possibilities, and interfaces with a central record-keeping system.

KION’s compact, ergonomic design makes it easier to work with, buying you more space in the crowded environment of the OR. When it comes to buying the system that is right for your needs, KION’s modular construction enables you to configure for today’s requirements, then simply add modules to meet the challenges of tomorrow.

And the system is already a winner in terms of design, having won the coveted Svensk Form award for product design excellence.
Designed to give you more room to move more freely

In the busy environment of the OR, space is often at a premium. So ergonomic considerations have had a lot to do with shaping KION’s design. The result: a compact system that is easy to operate from any position, and simple to clean and maintain.

KION offers one of the best ergonomic solutions in its field today, because every single aspect of its design has been considered with ease of access and operation in mind.

In classical Greek, κιων - KION - is the name for a pillar or column, and the column is the central feature of the system’s design, providing it with unique flexibility. The revolving arm holds the complete user interface so that, no matter how the system is placed in the theater, the interface is easy to see and reach, while the base of the system is kept out of the way.

In fact, with its moveable patient cassette and rotating vaporizer magazine, you can operate KION from both the left- and right-hand sides. There is less need to move the whole system: simply reposition the arm, the vaporizer unit and the patient unit.

The control panel is laid out in a logical, easy-to-use fashion and ensures that there are fewer steps to setting up the system - and that means quicker response times.

KION is easy to maintain and service. Cleaning procedures have been simplified by rethinking the design of key components such as the patient unit, and the neat, compact shape of the overall unit makes maximum use of flat, easy-to-clean surfaces.

These factors offer a major improvement in the working conditions of operating and support staff.
More freedom to cope with all procedures

KION gives you more choice, such as the option of bringing a range of ventilation modes into the operating theater. Available as rebreathing and non-rebreathing systems, this unique solution ensures optimal ventilation while maintaining gas economy. And it means that you can treat the complete range of patients – from infant to adult, including all procedures – with a single system.

KION’s unique gas delivery system allows you to utilize the range of ventilation modes in order to provide precision in all your ventilatory treatments.

Volume Controlled ventilation and Manual ventilation are offered as standard with the KION system.

Two additional modes of ventilation give you even greater capability in ventilating the full range of patient conditions and categories. Pressure Support ventilation (PS) gives increased flexibility for those patients breathing spontaneously. It is designed to reduce the work of breathing of these patients by overcoming the resistance of the circuit and the ET tube, and supports the patient’s inspiratory efforts to ensure adequate spontaneous tidal volumes. It can also be used in conjunction with a Laryngeal mask, providing all of the same benefits.

Pressure Control ventilation (PC) can be used on the full patient population. It is used extensively on infants with uncuffed ET tubes, thus overcoming the leaks associated with these patients. It is also of proven benefit in ventilating all patients with lung pathology by allowing precise control of delivered airway pressures.

KION’s Pressure Control allows for a variable peak flow rate up to 180 l/min and a subsequent decelerating flow curve, thus meeting the needs of all patients where this mode can be applied.

KION offers a comprehensive choice of rebreathing and non-rebreathing ventilation modes. Now you have the capability to cope with all patient categories, from infant to adult, in a wide range of procedures.
Siemens well-proven INFINITY™ integrated continuous care concept means that patients can be monitored without interruption from induction, through OR and on to ICU, recovery or subacute. A single PICK AND GO™ monitor follows the patient all the way through, saving time and enhancing the quality of care for the patient.

The standard KION screen is a multipurpose unit, displaying all respiratory parameters from the ventilator, as well as curves and loops. It also serves as the main interface between KION and the operator. The screen can be configured to suit the operator’s preferences and can be tilted to provide an optimal viewing angle.

The system is also available with Siemens’ optional INFINITY™ concept for continuous monitoring. Normally, monitoring patients throughout their hospital stay involves connecting, disconnecting and reconnecting the monitors with every move. This creates an interruption in data collection and display.

With Siemens INFINITY monitoring, a patient can be connected at the point of admission and remains connected until discharge, or until monitoring is no longer required. This can be done without compromising the level of monitoring provided and no time is lost in changing over monitors and cables.

The heart of the system is the docking station found at each bedside. This allows you to configure each location as required. When the PICK AND GO monitor is placed on the docking station, it automatically assumes that configuration.

A separate independent surgeon’s display, driven by a Surgical Display Controller, can also be incorporated in the INFINITY concept, providing ultimate flexibility in display options for the surgeon.

The PICK AND GO monitor will also interface with the MULTIVIEW WORKSTATION™ using the INFINITY NETWORK™. So achieving an overview of what is happening in several treatment areas at once is now possible: for example, an anesthesiologist using KION in one operating room can review a patient being monitored in the recovery room.
CareSuite information management: better control for patient care

CareSuite,™ anesthesia and clinical information management systems automate the pre-op and point-of-care anesthesia procedures.

The CareSuite system makes it easy to collect, record and analyze patient information generated by monitors and anesthesia machines in the operating room and recovery area; it organizes the work flow for medication, validation and pre-op assessment.

Managing the volume of information at the point-of-care is one of the most commonly-expressed concerns of anesthetists. CareSuite, pre-, intra- and post-operatively, gathers the information for your patient and assimilates the information to provide anesthetists and, later in the care process, clinicians with a complete overview of the patient’s condition.

CareSuite brings together information from a wide variety of the most commonly-used medical devices and systems, including KION, and presents it to the anesthetist or clinician in a graphical, easy-to-read Microsoft Windows NT format. Accessible from any bedside or networked computer, its built-in modules also provide a record of the pre-operative evaluation and current events, vital signs, medications, fluid balance and lab results.

The CareSuite architecture integrates the information flow between care areas, with all the preceding information being available to the new team of clinicians. So, pre-op case information is available in the OR; OR case information can be accessed in recovery. If the patient is transferred to the ICU, the anesthesia information is available for the intensivist. If the patient then returns to the OR, all the preceding intensive care information is available to the new anesthetist.

On a wider scale, this networking capability provides doctors with more freedom of movement; armed with a personal computer or other computing device, a doctor can directly monitor a patient’s progress from remote locations.

This significant improvement to information flow displays information more clearly at the point-of-care and gives successive clinicians the very best historical patient information, and provides tools for the team to provide better patient care.
Maintenance and service as flexible as the system itself

KION is a system that is designed to save time and costs all-round. Easier, simpler cleaning procedures are just part of the story, keeping the system at a maximum level of serviceability throughout its operational life is another key factor. With KION, you can specify your choice of flexible service agreements, ensuring that you have the optimum level of coverage and support in all circumstances.

KION’s unique design makes it one of the easiest anesthesia systems to work with both inside the operating theater, and, later, outside, when it comes to cleaning and routine maintenance. All parts of the system which come into contact with the patient’s expiratory gases during any form of ventilation procedure are disinfectable or can be sterilized, and standard disposable circuits can also be used. The patient cassette incorporates the inlets and outlets for the breathing circuit, and can be removed by simply moving a lever. The complete unit can be cleaned and autoclaved. And maximum use of flat surfaces has been made in the design of KION, so the system is easy to wipe clean.

Service agreements can be as flexible and individual as a customer’s needs and help you reduce the cost of ownership even further – simply choose what’s most important for you:

- **Cost-effectiveness**
  An effective method of controlling costs over a set period of time, so that there are no surprises in the shape of sudden cost increases.
- **Planned maintenance**
  Having agreed service intervals for maintenance and service lets you safely plan ahead.
- **Continuous update**
  You can maintain KION as a state-of-the-art system through an update agreement, ensuring that you continuously receive the latest versions of hardware and software.
- **Guaranteed uptime**
  The assurance of high availability of your equipment in order to maintain high patient throughput.
- **Shared service agreements**
  We supply differing levels of technical support according to your needs. This could range from straightforward telephone support to complete in-house staff training.

KION is one of the easiest systems to work with – from everyone’s point of view. Tailored, individual maintenance agreements are just part of KION’s class-leading flexibility.
Room to build for the future

KION also provides economical advantages. This truly modular system builds from a basic anesthesia machine to a complete state-of-the-art, integrated anesthesia workstation: a cost-effective alternative to the usual upgrade path of ‘scrap and reinvest’. KION is actively designed to help you achieve better patient management and contain costs through better use of medical resources.

For a start, we have adopted a modular approach to KION’s design. You can specify the equipment for the system that is right for your needs today, then simply add on extra equipment and upgrade your capabilities as your needs grow in the future. And with KION in its fully-configured status, a single system gives you the ability to treat all clinical applications.

The accuracy of the vaporizers, monitoring parameters and different ventilation modes also helps provide an excellent price/performance ratio. And further cost-saving advantages can be gained through using a single supplier for both anesthesia equipment and monitoring units. What’s more, it means a single interface for after-sales and maintenance service.

Using a single system also means lower training and education costs. Lower administration and handling costs, too, when you integrate KION with an information management system.

In today’s demanding environment of more managed healthcare and better cost efficiency, KION simply makes good economic sense.
KION. Configure for today. Build on for tomorrow.

KION now gives you the capability to treat the complete range of patients – from neonate to adult – with a comprehensive range of ventilatory treatments available. KION also brings a new, comprehensive dimension in monitoring options and packages. And all this, from a single system.

But you don’t have to start with a fully-configured KION anesthesia workstation. The modular design of KION means that you can configure the system that’s right for your needs today. Then simply add on modules and build the system as your needs grow and change in the future.

The basic version
- Choice of vaporizers
- Lamp
- Servo-controlled Ventilator
- CO₂ absorber
- Respiratory screen
- 2 modes of ventilation
- 4-channel respiratory monitoring
- MIB connectivity
- 30-minute battery backup

Ventilation modes
- Manual Ventilation
- Volume Control
- Pressure Support
- Pressure Control

Optional upgrades:
- Optional monitoring capabilities
  - 5/6 or 8 channels
  - NIBP connection
  - Invasive blood pressure (1-4)
  - ST segment
  - EEG pod
  - MAC values
  - DuolView screen (up to 12 channels)
  - Additional parameters such as Blood Chemistry, Drug dosage calculator
  - BIS-index (via Aspect monitor)

Optional upgrades:
- Gas and agent analyser
  - Gas and agent monitoring
  - Sidestream analysis
  - Automatic agent ID
  - Inspiratory/expiratory values
  - Waveforms and trends
  - Paramagnetic O₂ sensor

CareSuite
Clinical information management system

Further options
- Additional vaporizers
- Gas manifold
- Anaesthesia record keeping
- Accessory shelf
- Independent surgeon’s display
- Additional 90-minute battery
- Isolation transformer
- Networking capabilities

Basic DuoView Screen

Siemens proven continuous monitoring concept

Siemens medical Solutions that help