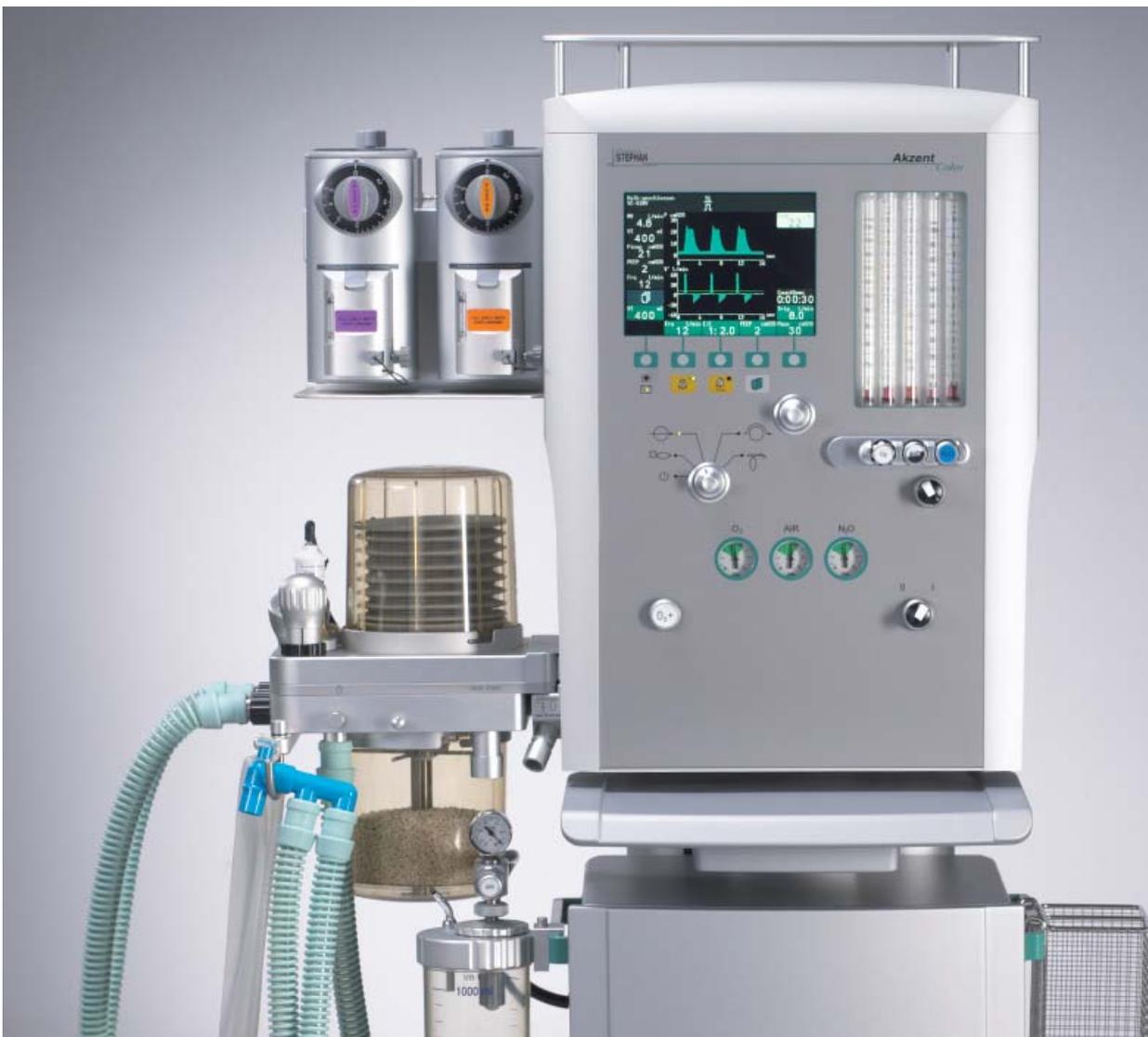




Akzent *Color*

Anesthesia and excellent ventilation for neonatal, pediatric and adult patients

- + Intelligent, intuitive operating concept
- + Ultra compact high-end anesthesia workstation
- + Ergonomic, space saving design
- + High contrast color display
- + Tidal volumes from 5 to 1500 ml
- + Ventilation frequency from 3 to 100 1/min
- + Integrated, heated breathing system



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The flexible ultra compact high-end anesthesia unit

Success and quality of an anesthesia procedure is considered optimal if the physician can concentrate fully on the patient. With AKZENT COLOR, F. Stephan GmbH is offering an easy-to-use anesthesia unit that is as intuitive as it is ergonomic, and hence allows its operator to focus the attention entirely on the patient.

The ability to accommodate a wide variety of patient profiles with just one anesthesia workstation is indispensable for routine clinical care nowadays. The solution: AKZENT COLOR. The extremely flexible high-end anesthesia unit helps providing professional care for all patients, from premature babies to adults and, thanks to its ultra-compact construction, even fits into the smallest operating room.



Highlights

The ventilator

AKZENT COLOR offers outstanding ventilation characteristics for all patient groups, reaching the standard of an intensive care ventilator. In the neonatal and paediatric fields in particular, AKZENT COLOR sets the standard with regard to the precision of its anaesthesia ventilation. Ventilation modes V- and P-CMV, VC- and PC-SIMV and PSV^{care} are available, along with manual and spontaneous breathing, and all modes can be set by the operator to minimal flow, low flow or high flow conditions.

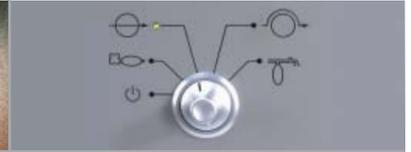
Breathing system

The breathing system is designed for the complete patient range from premature babies to adults, and achieves impressive precision in its gas exchange function. As a fully integrated and heated unit, it is extremely simple to operate, easy to maintain, and requires a minimum of hoses and pipes.

Operating concept

The user guidance and menu navigation is clearly structured and easily understood. This, combined with an ergonomic design, makes for intuitive and reliable

Anesthesia



use both during routine clinical care and in emergency situations. Switching between operating modes can be performed quickly and easily by turning a single central control knob.

Design and construction

AKZENT COLOR is considered to be the most compact high-end anesthesia workstation on the market. With its slimline construction, it can be used without difficulty even where space is at a premium, such as in preoperative rooms.

Graphical color display

The newly developed display is very clearly laid out and has excellent contrast. Two different user interface designs are provided for the operator to choose between. The first option was specifically designed

for brightly lit rooms, while the second has clear advantages in darkened surroundings, such as operating theatres.

Integrated monitoring

AKZENT COLOR provides detailed monitoring in which the key parameters for ventilation and anesthesia are displayed to the physician in a clear and well structured fashion. The aim is allowing the operator to interpret the anesthesia data easily and hence improve patient safety.

Monitoring of anesthetic gases can be provided as an option by an integrated gas measurement module which, depending on the model, may include automatic gas identification.

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Intuitive anesthesia: Effective therapy for patients

Excellent ventilation for the complete spectrum of patients

With the proportion of elderly intensive care patients and premature babies in the operating room constantly increasing, the demands placed on anesthesia ventilation and breathing systems are also growing. For decades now, F. Stephan GmbH has been regularly setting new standards in the field of neonatal and pediatric ventilation.



This great store of expertise has been especially useful in developing the AKZENT COLOR's ventilation technology, which gives excellent results for neonatal and pediatric ventilation as well as for the ventilation of adults. At its heart is the microcontroller driven ventilator, which has already proved itself thousands of times in the STEPHANIE pediatric respirator. This allows tidal volumes ranging from 5 to 1500 ml to be applied at a frequency of 3 to 100 1/min, with a precision that is normally achieved only by dedicated pediatric or ICU ventilators.

A series of pressure controlled ventilation modes are provided specifically for pediatric patients or patients requiring intensive medical care. The S-IMV mode, for instance, used in combination with flow or pressure triggers, can significantly reduce the effort of breathing. Also available is PSV_{care}, a mode which provides assisted, pressure-supported spontaneous breathing and is equipped with an apnoea backup function to ensure patient safety.

Breathing system

The breathing system of AKZENT COLOR is specifically designed for the ventilation of premature babies and adults with minimal flow, low flow and high flow requirements. It is equipped with five different operating modes, which are suited to virtually all patient types and can easily be set by turning a single control knob.

The number of hoses and pipes was reduced deliberately to the absolute minimum. Another advantage is that reconfiguration is not necessary when changing between pediatric and adult patients, which means that patient safety is increased significantly.

Anesthesia



Intuitive usability

Intuitive usability and the means to set parameters and alarm thresholds accurately are of critical importance for a modern, user-friendly anesthesia system. AKZENT COLOR impresses in this respect with its logical design and clearly structured user guidance and menu navigation. Focus on the essential control elements and significant reduction in complexity means that it has never been easier to work with an anaesthesia unit.

The central control knob is playing a key role here. It allows the various operating modes of the AKZENT COLOR to be selected directly, with just one single operation. Switching between operating modes can be done quickly and safely. This is especially invaluable in emergency situations, when the attention of the physician needs to be focussed completely on the patient.

Safety in clinical use

- + Quick automatic self-test on starting the unit, which can be interrupted by the operator in an emergency
- + Reliable operation of the unit even during a power failure thanks to its internal back-up battery
- + In the event of an extended power failure, it is possible to perform full anesthesia by means of manual ventilation using N₂O or vaporisers
- + Fully automatic monitoring of input pressure from the central gas supply system
- + Safe handling and short familiarization periods due to a simple and intuitive operating concept
- + Change of soda lime without interrupting ventilation
- + Quick and hygienic cleaning thanks to smooth surfaces

Integrated heating prevents condensation from forming in the breathing system even when the unit is used for a longer period. The absorber container can, of course, be removed and refilled in order to replace the soda lime without any interruption of ventilation.

Most importantly for the operator, the clearly structured design of the breathing system means that it can be cleaned quickly and easily after use, and only a few parts need to be removed for sterilisation. Special design features make incorrect reassembly of the components virtually impossible. An important contribution to cost savings is that the sensors used for flow measurement are extremely robust and provide a long durability. They can easily be cleaned in water and can be autoclaved without disassembling at up to 134°C.

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Ergonomic, compact and individual



Design

Modern operating theatres are equipped with a multitude of machines so as to provide the best possible care for the patient. This makes it all the more important that modern anesthesia workstations are designed to be compact and ergonomic.

These requirements are fulfilled perfectly by the AKZENT COLOR, whose slimline construction makes it one of the smallest high-end units on the market. No matter whether it is fitted with a mobile stand, attached to the wall or mounted on the ceiling supply unit, AKZENT COLOR is always versatile and can be adapted to fit perfectly into the space available.

Accessories and equipment

- + Integrated patient gas monitoring with electrochemical or paramagnetic O₂ cell
- + Extendable writing shelf
- + Configurable drawer units
- + Gas bottle holder for 2 to 4 cylinders
- + High pressure gas bottle connections for O₂ and N₂O
- + Patient monitor support arms
- + Fluid management system
- + O₂ dosimeter for standard rails
- + Additional „VENTSAFE“ backup system
- + Fastening sets for mounting AKZENT COLOR on walls or on the ceiling supply unit

Equipment feature	AKZENT COLOR without anesthesia module	AKZENT COLOR with anesthesia module
Anesthetic gas measurement	–	√
Automatic anesthetic gas identification	–	optional
Electrochemical O ₂ cell	√	optional
Paramagnetic O ₂ cell	–	optional
External PNT-C (Vte 5-150 ml)	optional	optional
O ₂ high pressure gas bottle connection N ₂ O high pressure gas bottle connection	optional	optional

Anesthesia





Clinical Experience
Technical Competence

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Technical Specifications

General specifications	
MPG class	II b
Dimensions	
- Wall-mounted unit	740 x 770 x 250 mm (WxHxD)
- Mobile Unit	740 x 1400 x 250 mm (WxHxD)
Weight	
- Wall-mounted unit	45 kg
- Mobile Unit	65 kg
Power supply	
Mains	90-240 V AC, 50-60 Hz, 110 VA
Battery	12 V DC, approx. 2 hours, approx. 30 min with Anesthetic gas measurement module
Gas supply	
Air	3 - 6 bar + 0,5 bar
O ₂	3 - 6 bar + 0,5 bar
N ₂ O	3 - 6 bar + 0,5 bar
Ventilation system	
Fresh gas compensation	
System compliance compensation	
Bellow-in-bottle system; standing, visible Bellow	
Automatic connection of the ventilation system	
Heating of ventilation system	
Dimensions approx.	320 x 410 x 230 mm (WxHxD)
Weight	approx. 7 kg (without soda lime)
Absorber volume	2,4 l
APL valve	0 ... 70 cm H ₂ O
Operating modes of the ventilation system	
Stand by	
Manual ventilation / spontaneous breathing	
semi-closed	
semi-open	
FG out (additional fresh gas outlet)	
Ventilation modes	
V-CMV	Volume controlled mandatory Leakage compensation
P-CMV	Pressure controlled, mandatory
PC-S-IMV	Pressure controlled, synchronized mandatory
VC-S-IMV	Volume controlled, synchronized mandatory
PSV _{care}	Assisted pressure support ventilation with backup ventilation

Parameters	
Air	0; 0,2 ... 15 l/min
O ₂	Fine: 0; 0,2 ... 2 l/min Coarse: 2 ... 15 l/min
optional: N ₂ O	Fine: 0; 0,1 ... 1 l/min Coarse: 1 ... 10 l/min
Operating unit	
Tidal volume V _{te}	70 ... 1500 ml
optional	5 ... 150 ml (PNT Type C)
Ventilation freq.	3 ... 100 l/min
I:E ratio	4:1 ... 1:6
P _{max}	5 ... 70 cm H ₂ O
Peep	0 ... 30 cm H ₂ O
O ₂ -Flush	approx. 35 l/min
Monitoring	
Display	Color TFT; 8,4"
Pressure	P _{insp} , Peep, P _{mean}
Volumes	V _{te} , MV
Gases optional	FiO ₂ FiCO ₂ , EtCO ₂ FiAGA, EtAGA AGA: Sev, Des, Enf, Iso, Hal, N ₂ O
Ventilation freq.	f
Graphs displayed	P(t), V'(t) Scaling
optional	CO ₂ (t)
Supervision	
Alarms	Visual, audible Clear text messages
Pressure	Paw
Volume	MV, V _{te} , Apnoe
Gas measurement optional	FiO ₂ FiCO ₂ , EtCO ₂ FiAGA, EtAGA AGA: Sev, Des, Enf, Iso, Hal, N ₂ O
Gas Control	Low pressure O ₂ : electronic Low pressure Air: electronic Low pressure N ₂ O: electronic N ₂ O-Ratio Syst.: pneumatic N ₂ O-Cut-Off Syst.: pneumatic
Data output	
RS232; SD-Card	
Sensors	
Flow/volume	Pneumotachograph Internal PNT up to 160 l/min Externer PNT-C up to 22 l/min
FiO ₂	El.-chem. O ₂ cell
optional	Paramagnetic O ₂ cell