



The specialist  
for every environment

DRÄGER  
FABIUS® TIRO

# It's all about time and space



D-385508-2009

Is there an anesthesia workstation out there that's compact yet fully featured?  
One that can fit into our small ORs and still leaves enough space to work?  
What about our outpatient surgery center? Can a specialized workstation still be flexible  
enough to suit all our needs?

## Take a closer look at the Dräger Fabius® Tiro

In the modern hospital environment, time is always precious. But there are also many places in a hospital where space comes at premium. Places like induction rooms, emergency departments or smaller operating rooms. Spaces like these present particular challenges – such as how to maintain the best possible patient access and still provide high-quality care. It was for environments like these that we designed the Dräger Fabius® Tiro.

The Dräger Fabius Tiro combines everything you need to provide high-quality ventilation in small spaces. Its compact design makes it a natural choice for applications where you need to get the most of the available room without having to compromise on features or flexibility. With a wide array of options to choose from, the Fabius Tiro can be customized to suit your needs and even be upgraded when those needs change.

### PERFORMANCE FEATURES:

- Compact, space-saving design
- Highly maneuverable cart
- Optional wall mount
- Standardized Dräger user interface for easy and intuitive operation
- All major ventilation modes
- High-contrast display
- Intelligent safety features for enhanced patient protection
- CLIC absorber compatible



### HIGH-PERFORMANCE VENTILATION

At its core, the Fabius Tiro features our powerful and accurate E-vent piston ventilator, which requires no drive gas and delivers ICU-like ventilation performance. This gives you the ability to handle a wide range of acuity levels. The accuracy of the electrically driven E-vent piston ventilator means that you can also treat pediatric patients with confidence. Optional pressure controlled and pressure support (PS) modes, including SIMV/PS, can expand your ventilation therapy repertoire even further. The combination of its high-precision ventilator and compact, heated breathing system makes the Fabius Tiro a natural choice for low-flow anesthesia.

In spite of its compact size, the Fabius Tiro comes complete with advanced features such as fresh gas decoupling, which maintains constant tidal volumes regardless of fresh gas flow changes. Dynamic compliance compensation and backup ventilation for PS modes let you ventilate with enhanced safety, confidence, and control. In emergency situations, the quick-start feature allows manual ventilation when the device is off, on, or in standby mode for rapid support. Even in the unlikely event of a gas supply failure, automatic ventilation can be temporarily continued.

### KEEPING YOU INFORMED

The Fabius Tiro features an integrated, high-contrast monitor which displays relevant ventilation information as parameters and a pressure curve. Fresh gas flow is monitored via high-visibility digital displays as well as a single mechanical flow tube which shows total gas flow. It is also possible to export all parameters as data, e.g. for enhanced ventilation monitoring or further analysis.

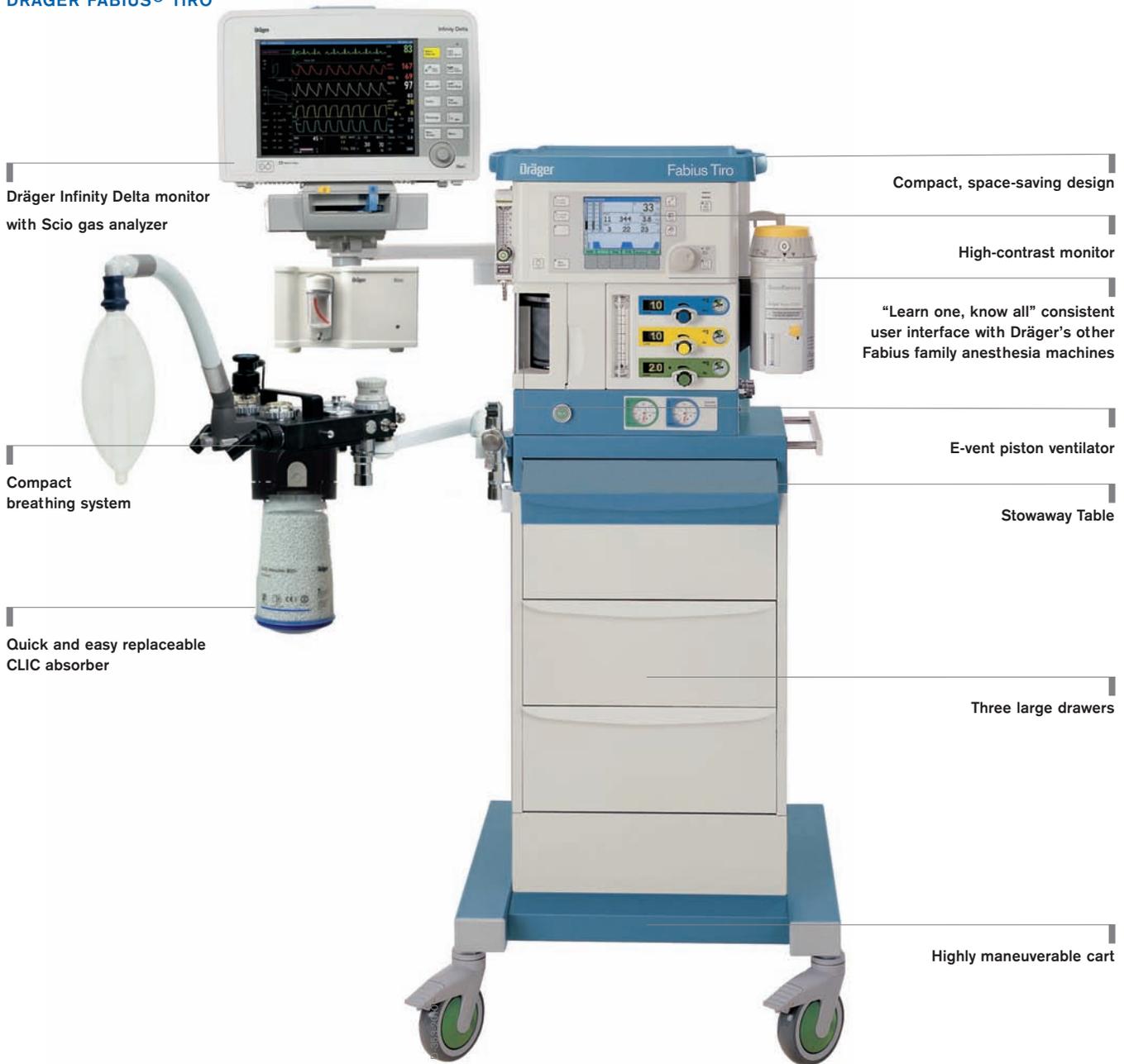
If you've used a Dräger workstation before, then you're familiar with Dräger's standard user interface, which features our established select-adjust-confirm concept. This means you'll be up and running on the Fabius Tiro in just a short time.

### ENHANCED ERGONOMICS AND ECONOMICS

The Fabius Tiro was specifically designed for use in confined conditions. For example, you can choose from a wall-mounted version or a cart version which makes positioning both safe and simple. Up to three drawers provide storage space for additional equipment and consumables, and a stowaway table provides extra space for other instruments or documentation.



## DRÄGER FABIUS® TIRO



The external compact breathing system (COSY) features a simple design for easy disassembly and cleaning. Because the piston-driven E-Vent ventilator requires no drive gas, no additional medical-grade gases are required for operating/driving the ventilator.

The Fabius Tiro is compatible with our CLIC absorber which effectively prevents skin contact with soda lime. In addition, the CLIC absorber feature enables the clinician to quickly exchange soda lime during the operation, enabling you to get the most out of every soda lime canister. Overall consumption of sodalime can be reduced by nearly 60% versus conventional sodalime absorbent systems.

#### MODULAR AND UPGRADABLE

Your Fabius Tiro can be equipped with hemodynamic monitoring. In conjunction with Dräger Infinity patient monitors and the SCIO patient gas module, the Fabius workstation provides integrated gas monitoring as well as enhanced ventilation monitoring including spirometry of hemodynamic monitors. Due to its open interface architecture, the Fabius Tiro is ready for integration into your hospital information system (HIS) or Anesthesia Information Management System (AIMS). You'll always have the option to customize the Fabius Tiro to suit your individual needs. Your Dräger representative will be glad to assist you in choosing the options that are right for you.



**Now make the right choice for service: DrägerService®**

DrägerService offers a wide range of flexible service options which you can select and combine to meet your individual needs – from technical support to complete, fixed-budget service contracts. Remote Service solutions offer additional potential to improve the uptime of devices.

## Options and accessories

A wide array of options and accessories are available to choose from, giving you the possibility to tailor the Fabius® Tiro to create exactly the anesthesia solution you need:



D-353-2010

Color monitor option



MT-1346-2008

Vaporizer standby holder



MT-1953-2008

Breathing system with integrated heater



D-354-2010

Dräger Infinity patient monitors and mounting solutions



D-3435B-2009

Dräger Scio gas monitor for volatile agents, CO<sub>2</sub> and O<sub>2</sub> options



D-354-2010

Auxiliary O<sub>2</sub> flow meter



MT-3876-2008

Flip-up side tray



D-9360-2009

Medical-grade power strip



MT-1328-2008

Side basket



MT-6525-2008

Dräger Remote Service Link

Ask your Dräger representative about other members of the Fabius family:



D-22403-2010

Fabius® GS Premium – the high-performance flagship of the Fabius family



MT-0591-2008

Fabius® MRI – the Fabius built especially for the MRI suite

## TECHNICAL DATA FABIUS® TIRO

### BASE UNIT

#### Dimensions

Cart version without COSY	Approx. 22.8 × 53.6 × 24.7 in (57.9 × 136.1 × 62.7 cm)
Cart version (incl. COSY)	Approx. 30.5 × 53.6 × 33.0 in (77.2 × 136.1 × 83.8 cm)
Wall version (incl. mounting bracket and COSY)	Approx. 28.4 × 21.9 × 30.5 in (72.1 × 55.6 × 77.5 cm)

#### Weight and load

Fabius Tiro Cart (incl. COSY) without supplementary cylinders and vaporizers	256 lb (116 kg)
Wall mount (incl. mounting bracket)	105.5 lb (47.8 kg)

#### Power and battery backup

Power input	100 to 240 VAC, 50/60 Hz, 70 VA
Operation time with fully charged batteries	Minimum 45 minutes (up to 120 minutes)

### ANESTHESIA GAS SUPPLY MODULE

Range of fresh gas flow indicators	0.00 to 12.0 l/min
Total fresh gas flow meter	0 to 10 l/min, calibrated with 50% O <sub>2</sub> and 50% N <sub>2</sub> O mixture
O <sub>2</sub> flush	At 87 psi (6 bar): max. 75 l/min; at 41 psi (2.8 bar): min. 25 l/min
Vaporizer mount	Single Dräger or Selectatec®; optional standby vaporizer parking holder

### VENTILATOR OPERATING SPECIFICATIONS

Ventilator E-vent®	Electronically controlled, electrically driven
Operating modes	Standard: Manual/spontaneous Volume control (VC) Option: pressure control (PC) Option: pressure support (PS) Option: synchronized volume control Ventilation with PS (SIMV/PS)

#### Control input ranges

Breathing frequency (rate)	4 to 60 bpm
Positive end expiratory pressure (PEEP)	0 to 20 cm H <sub>2</sub> O
Inspiration/expiration ratio (Ti:Te)	4:1 to 1:4
Pressure limit (Pmax)	15 to 70 cm H <sub>2</sub> O
Tidal volume (Vt)	20 to 1,400 ml in volume control; 20 to 1,100 ml in SIMV/PS
Inspiration pause (Tip:Ti)	0 to 50%
SIMV inspiratory time	0.3 to 4.0 sec
Inspiratory pressure (Pinsp)	PEEP +5 to 65 cm H <sub>2</sub> O
Inspiratory flow (InspFlow)	10 to 75 l/min in volume and pressure control; 10 to 85 l/min in pressure support
Pressure support level (PPS)	PEEP +3 to 20 cm H <sub>2</sub> O
Min. frequency for apnea ventilation (freq. in min.)	3 to 20 bpm and "OFF"
Trigger level	2 to 15 l/min

**FABIUS® TIRO TECHNICAL DATA**

Integrated safety functions	Sensitive oxygen ratio controller (S-ORC) guarantees a minimum O <sub>2</sub> concentration of 23% in an O <sub>2</sub> /N <sub>2</sub> O mixture. N <sub>2</sub> O is cut off if the O <sub>2</sub> fresh gas valve is closed or if O <sub>2</sub> flow is less than 0.2 l/min. Audible and visual (flashing red LED) indications turn on in the event O <sub>2</sub> pressure drops below 20 psi (1.38 bar) ±4 psi (0.27 bar). In the event of electricity and battery failure, manual ventilation, gas delivery, and agent delivery are possible. Positive pressure relief valve opens at 75 ±5 cm H <sub>2</sub> O. Negative pressure relief valve opens at -8 ±2 cm H <sub>2</sub> O.
<b>Ventilator monitoring</b>	
Monitoring	Continuous monitoring of inspiratory O <sub>2</sub> concentration, breathing frequency, tidal volume expiratory, expiration, minute volume, peak airway pressure, PEEP, and selection of mean or plateau pressure. In addition, all fresh gas flow information is displayed as virtual flow tubes.
Expiratory minute volume range	0 to 99 l/min
Control screen	6.5 in (16.5 cm); black/amber (color mode option)
<b>BREATHING SYSTEM</b>	
Volume of entire compact breathing system	1.7 l plus bag
Volume of CO <sub>2</sub> absorber	1.5 l (standard) [option: prefilled Dräger Sorb CLIC absorber with 1.2 l volume]
<b>GAS SUPPLY AND CONNECTION</b>	
Gas supply	O <sub>2</sub> , N <sub>2</sub> O, and air
Cylinder yokes	O <sub>2</sub> and N <sub>2</sub> O pin-indexed hanger yokes
<b>OTHER</b>	
Communication interface	1 × RS232 (standard) [additional RS232 optional]
Protocols	Vitalink and Medibus
Data available for export	All alarms, pressure, O <sub>2</sub> , volume and fresh gas flow data, ventilations settings, flow curve, and pressure curve
Writing surfaces	Pull-out tray (standard)
Additional accessories	Anesthetic gas scavenging system (AGSS), endotracheal suction unit, and integrated O <sub>2</sub> flow tube

**HEADQUARTERS**

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 according to ISO 13485, ISO 9001  
 and Annex II.3 of Directive 93/42/EEC  
 (Medical devices).