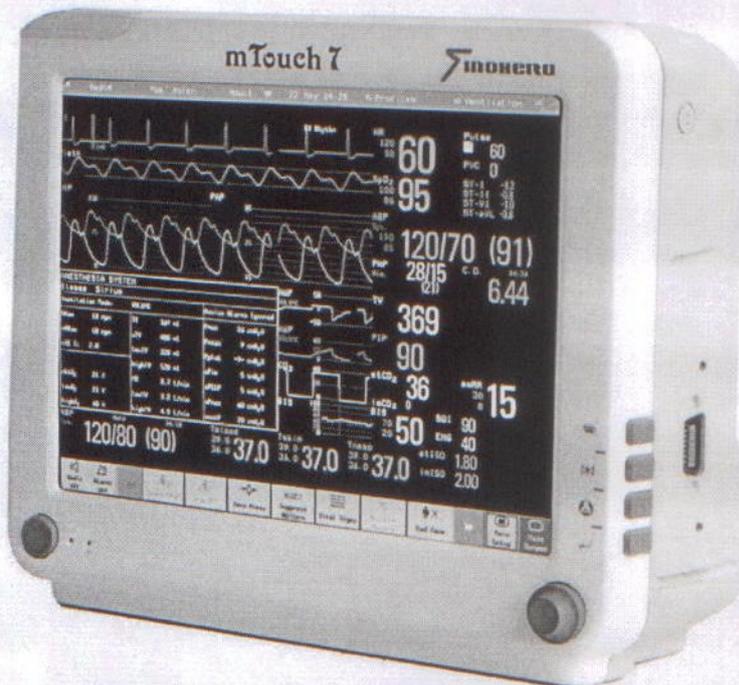


深圳市中豪生物电子有限公司
Sino-Hero (Shenzhen) Bio-Medical Electronics Co., LTD.

mTouch 7

Multi-parameter Patient Monitor



- 12" TFT full-touch screen with sharp view
- Ultimate slim design, compact with style
- 15 drug calculations and 13 ARR analyses, and ST analysis
- External 4-channel printer with plug-and-play feature
- Wire or wireless networking available



www.sinoheromed.com

TECHNICAL SPECIFICATION:

mTouch 7

Size and Weight

- Size: 300(W) × 270(H) × 120(D)mm
- 300(W) × 410(H) × 120(D)mm (with printer)
- Weight(Standard Configuration): 5.5kg

Display

- 12.1" color TFT Full Touch Screen
- Resolution: 800 × 600

Multi displays

- Standard display
- Large-font display
- Short Trend display
- OxyCRG display

Indicator

- Power indicator light
- Battery indicator light

Interface

- Parameter cable interface
- AC Power input socket
- Ground wire interface
- Network interface
- Alternate Display
- USB interface
- SD memory card interface

Battery

- Li-ion battery /Rechargeable
- Maximum 10 hours for charging; 2 hours for continuous working

Trend Graph

- Reviewable Parameters: HR, ST, SpO2, PR, NIBP, RR, TEMP
- Resolution: 1s, 5s, 5min, 10min

Trend Table

- Reviewable Parameters: HR, ST, SpO2, PR, NIBP, RR, T1, T2, TD
- Resolution: 1.5, 10, 30, 60min
- Trend Data: 256 Hours trend date for all parameters
- NIBP measurement: 400 Groups

Alarm

- Categories: Physical alarms and Technical alarms
- Priority: High, Medium, and Low
- Alarm sound levels: 0, 1, 2, 3, 4
- Notification: Visual and Audible

Networking

- Connected to central monitoring system

Recorder

- Type: Thermal dot array
- Number of waveform channels: 2 (standard), 1,3(optional)
- Paper width: 50mm
- Paper length: 13.5m
- Print speed: 25mm/s

Operation Environment

- Temperature: 0°C-40°C
- Relative humidity: ≤85% (noncondensing)
- Atmospheric pressure: 860hpa-1060hpa
- Patient Range: Adult, Pediatric, Neonate

ECG

- Lead Mode: 3-lead
- 5-lead
- Lead selection: I, II, III, I, II, III, V, AVR, AVL, AVF
- Gain: ×0.25, ×0.5, ×1, ×2, Auto
- Sweep speed: 12.5mm/s, 25mm/s, 50mm/s
- Multi-lead display: 6 waveforms
- Alarms: User-selectable upper and lower heart rate limits

HR

- Heart Rate for Adult: 15-300bpm
- Heart Rate for Neonate/Pediatric: 15-350bpm
- Heart Rate Accuracy: ±1bpm or ±1%, whichever is greater
- Heart Rate Resolution: 1bpm
- Notch: 50Hz, 60Hz

ST Segment

- ST segment range: -2.0mv to 2.0mv
- ST alarm range: -2.0mv to 2.0mv
- ST segment accuracy: -0.8mv to 0.8mv
- ST segment error: ±0.02mv
- Arrhythmia type: 13 types

SpO2

- Measurement range: 1%~100%
- Resolution: 1%
- Accuracy: ±2%(70%-100%); unspecified(0-69%)
- Alarm range: 0~100%

Pulse Rate

- Measurement range: 20bpm~300bpm
- Resolution: 1bpm
- Accuracy: ±3bpm
- Alarm range: 0~254bpm

NIBP

- Measurement technique: Oscillometric
- Measurement types: Systolic, Diastolic, Mean
- Work mode: Manual, Auto, STAT
- Auto measurement time: 0-4 hours
- Measurement unit: mmHg / Kpa selectable
- Measurement range:

Adult Mode:	Systolic pressure	40~270mmHg
	Diastolic pressure	10-215mmHg
	Mean pressure	20-235mmHg
Pediatric Mode:	Systolic pressure	40~200mmHg
	Diastolic pressure	10-150mmHg
	Mean pressure	20-165mmHg
Neonatal Mode:	Systolic pressure	40-135mmHg
	Diastolic pressure	10-100mmHg
	Mean pressure	20-110mmHg

Accuracy: 5%

- Resolution: 1mmHg
- Alarms: Selectable upper and lower limits for systolic, diastolic and mean pressure
- Over-pressure protection: Double safety protection

IBP

- Channels: 1 or 2 selectable
- Measurement Mode: Pressure Transducer
- Measurement Range: -10mmHg~300mmHg
- Accuracy: ±1mmHg or ±2%, whichever is greater(without sensor)
- Pressure name: ART, PA, CVP, RAP, LAP, ICP, P1, P2
- Alarm range: -10~300mmHg

TEMP

- Measurement unit: °Celsius(°C) or °Fahrenheit(F)
- Measurement range: 0-50°C
- Channel: T1, T2, TD (Temperature Difference)
- Resolution: 0.1°C
- Accuracy: ±0.1°C
- Probe type: YSI type

RESP

- Measurement technique: RA-LL Impedance variation detection
- Range: Adult: 7~120rpm
- Pediatric/Neonate: 7~150rpm
- Apnea alarm: 10s, 15s, 20s, 25s, 30s, 35s, 40s selectable
- Sweep speed: 6.25mm/s, 12.5mm/s, 25mm/s
- Gain: 0.25, 0.5, 1, 2, 4

EICO2

Mainstream CO2

- Measurement Range: 0 -150 mm Hg
- Accuracy: ± 2 mm Hg (0 - 40 mm Hg)
- ± 5% of reading (41 - 70 mm Hg)
- ± 8% of reading (71 - 100 mm Hg)
- ± 10% of reading (101 - 150 mm Hg)
- RR range: 0 to 150rpm
- Accuracy: 1rpm
- Response time: <60ms

Sidestream CO2

- Measurement range: 0 -150 mm Hg
- Accuracy: ± 2 mm Hg (0 - 40 mm Hg)
- ± 5% of reading (41 - 70 mm Hg)
- ± 8% of reading (71 - 100 mm Hg)
- ± 10% of reading (101 - 150 mm Hg)
- Sample flow rate: 50ml/min
- Accuracy: ±15% or 15ml/min, whichever is greater
- Warm-up time: <1min, enter the iso accuracy mode
- After 1 min, enter the full accuracy mode
- RR range: 0-120rpm
- RR accuracy: ±2 rpm

Standard Configuration of mTouch 7

12.1" TFT-LCD Full Touch Screen, 3/5 Lead ECG, PR/HR, RESP, SpO2, NIBP, 2-TEMP, Li-ion Battery

Optional Configuration of mTouch 7

Masimo SpO2, 2-IBP, EICO2 (Sidestream, Mainstream), VGA output, Printer



Specification subject to be changed without prior notice.

Sino-Hero (Shenzhen) Bio-Medical Electronics Co., LTD.

Address: Unit 608, 5/F., First Building, ZhongXing Industrial Park, Chuangye Road, Nanshan District, Shenzhen 518054, P. R. China

Tel: 86-755-26408541

Fax: 86-755-26420566

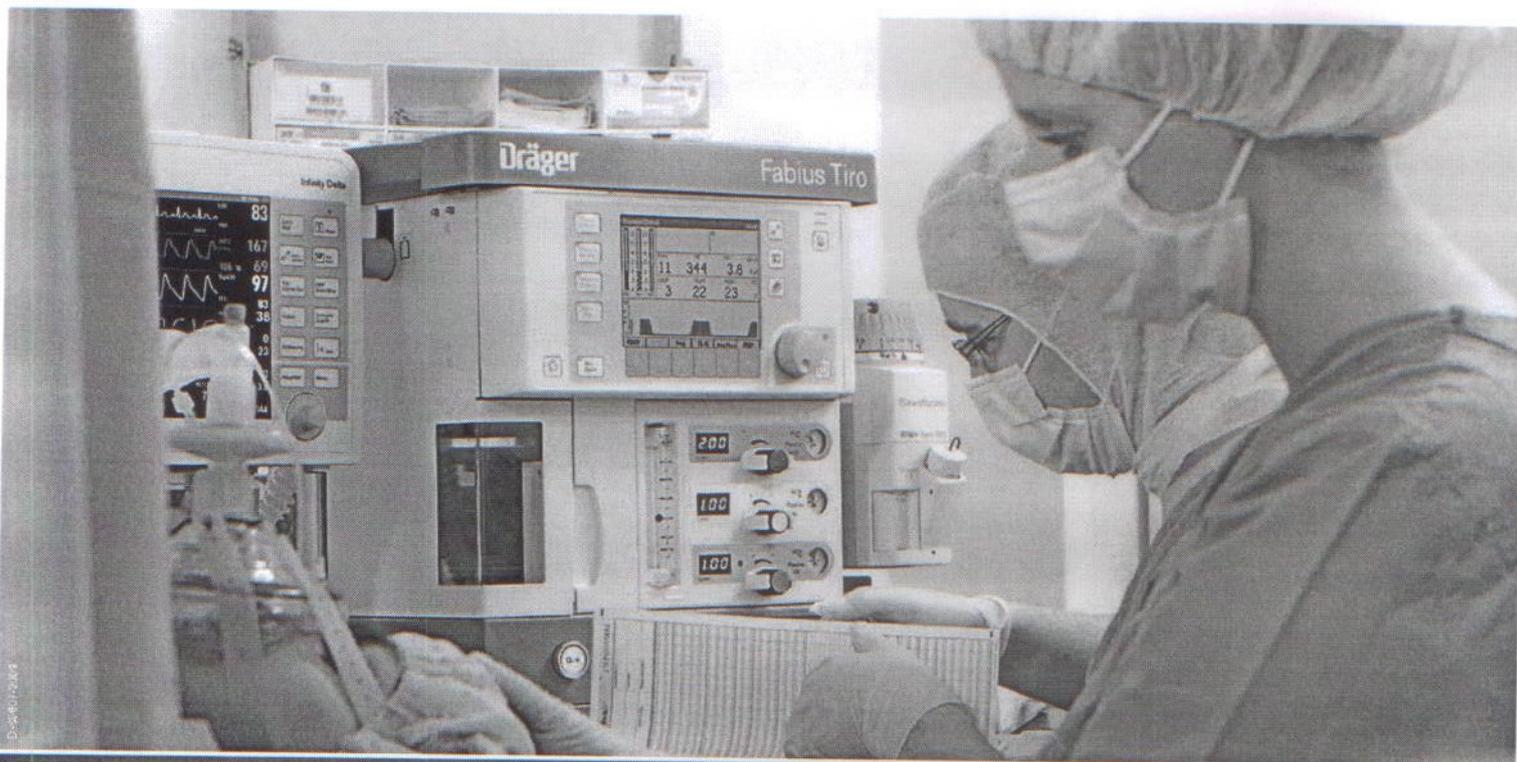
E-mail: manager@sinoheromed.com



Http://www.sinoheromed.com

ENG-mTouch7-20131213

Dräger



The specialist
for every environment

DRÄGER
FABIUS® TIRO

Dräger. Technology for Life®

It's all about time and space



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?

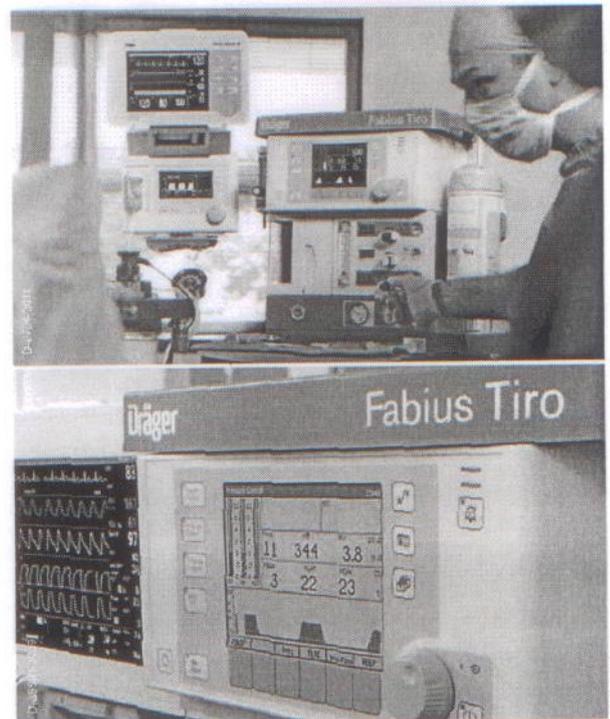
Take a closer look at the Dräger Fabius® Tiro

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.

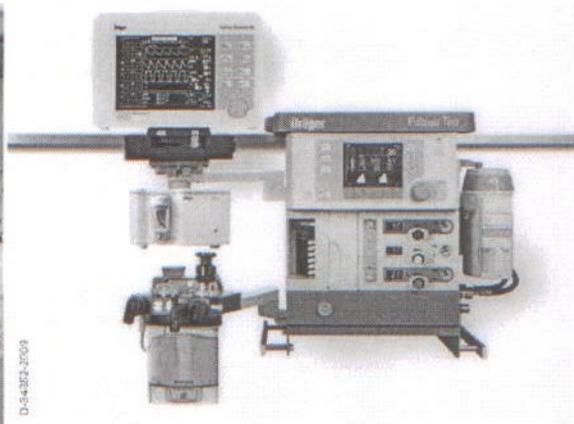
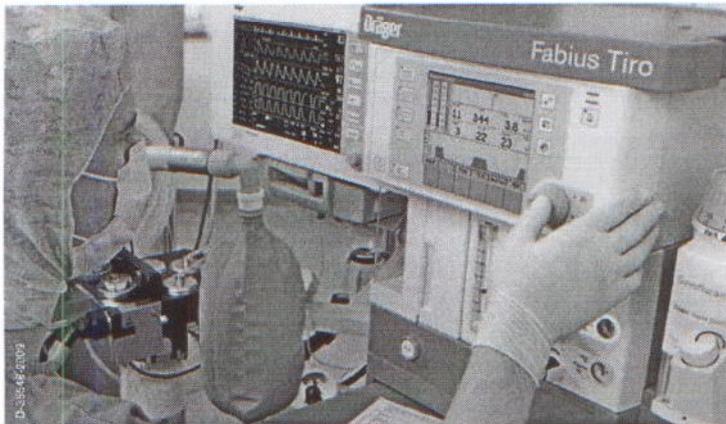
KEEPING YOU INFORMED

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.



swl.

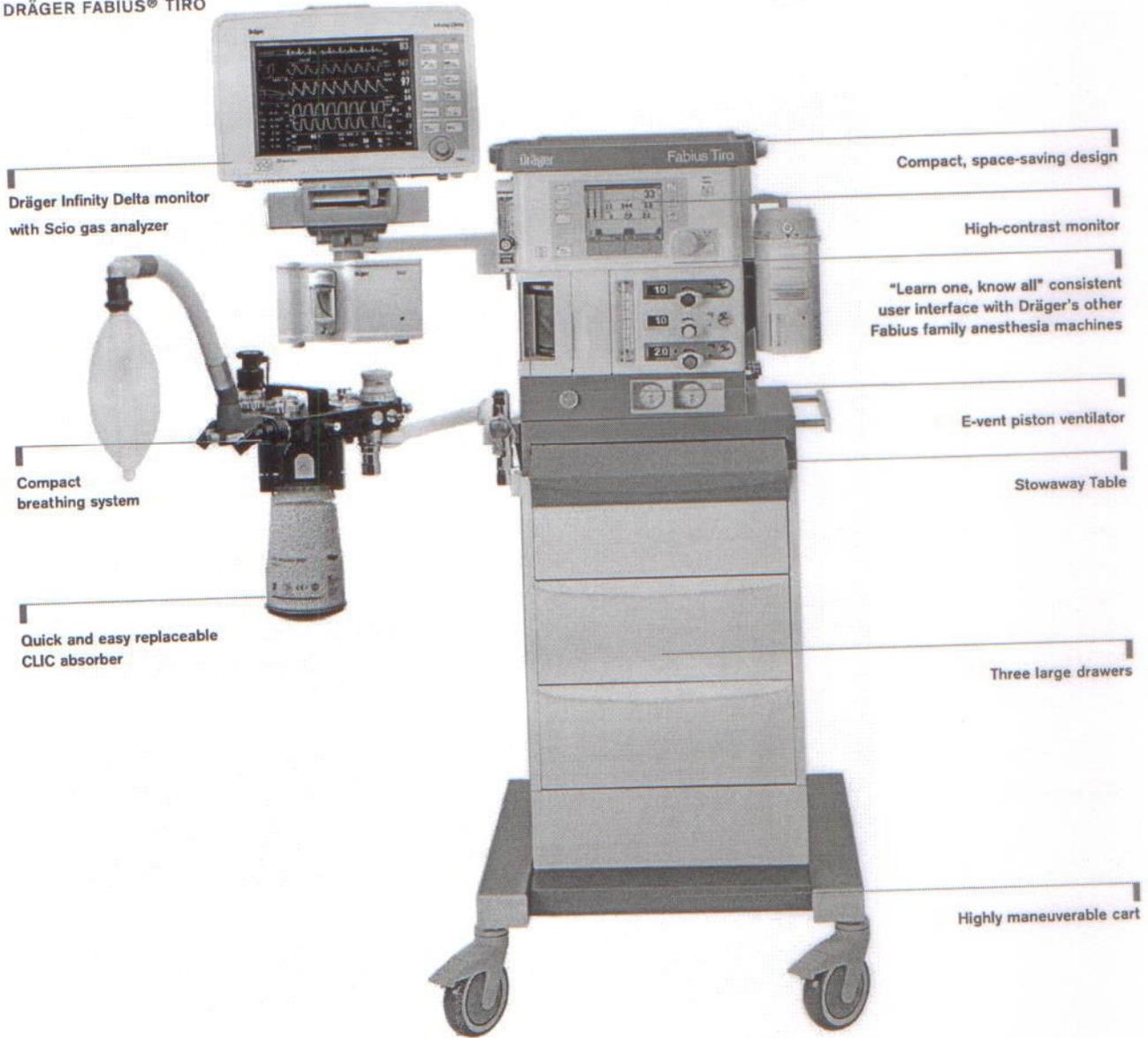
swl.

15swl.

D-54385-37009

D-54385-37009

DRÄGER FABIUS® TIRO



Dräger Infinity Delta monitor with Scio gas analyzer

Compact, space-saving design

High-contrast monitor

"Learn one, know all" consistent user interface with Dräger's other Fabius family anesthesia machines

Compact breathing system

E-vent piston ventilator

Stowaway Table

Quick and easy replaceable CLIC absorber

Three large drawers

Highly maneuverable cart

5 ul. 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

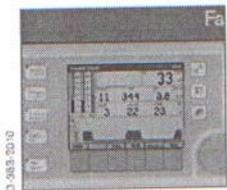
Your Fabius Tiro can be equipped with hemodynamic monitoring. In conjunction with Dräger Infinity patient monitors and the SCIO patient gas module, the Fabius workstation provides integrated gas monitoring as well as enhanced ventilation monitoring including spirometry of hemodynamic monitors. Due to 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:



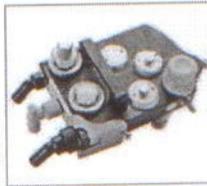
D-383-2010

Color monitor option



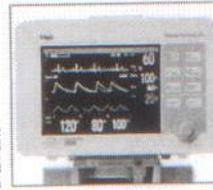
MT-1346-2009

Vaporizer standby holder



MT-1353-2008

Breathing system with integrated heater



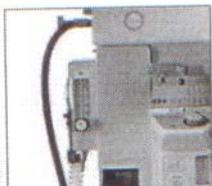
D-354-2010

Dräger Infinity patient monitors and mounting solutions



D-34588-2009

Dräger Scio gas monitor for volatile agents, CO₂ and O₂ options



D-384-2010

Auxiliary O₂ flow meter



MT-2679-2008

Flip-up side tray



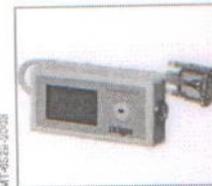
D-8780-2009

Medical-grade power strip



MT-1326-2009

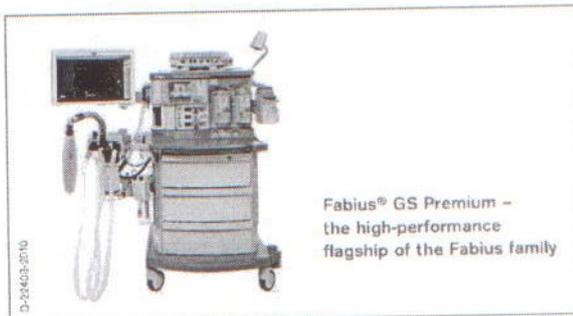
Side basket



MT-6026-2008

Dräger Remote Service Link

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



D-33403-2010

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



MT-2081-2008

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 ₂ and 50% N ₂ O mixture
O ₂ 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) ← 14 l/min. 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 ₂ O
Inspiration/expiration ratio (Ti:Te)	4:1 to 1:4
Pressure limit (Pmax)	15 to 70 cm H ₂ 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 (P _{insp})	PEEP +5 to 65 cm H ₂ 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 ₂ 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 O₂ concentration of 23% in an O₂/N₂O mixture. N₂O is cut off if the O₂ fresh gas valve is closed or if O₂ flow is less than 0.2 l/min. Audible and visual (flashing red LED) indications turn on in the event O₂ 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 H₂O. Negative pressure relief valve opens at -8 ±2 cm H₂O.

Ventilator monitoring

Monitoring Continuous monitoring of inspiratory O₂ 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)

BREATHING SYSTEM

Volume of entire compact breathing system 1.7 l plus bag

Volume of CO₂ absorber 1.5 l (standard) [option: prefilled Dräger Sorb CLIC absorber with 1.2 l volume]

GAS SUPPLY AND CONNECTION

Gas supply O₂, N₂O, and air

Cylinder yokes O₂ and N₂O pin-indexed hanger yokes

OTHER

Communication interface 1 × RS232 (standard) [additional RS232 optional]

Protocols Vitalink and Medibus

Data available for export All alarms, pressure, O₂, 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 O₂ flow tube

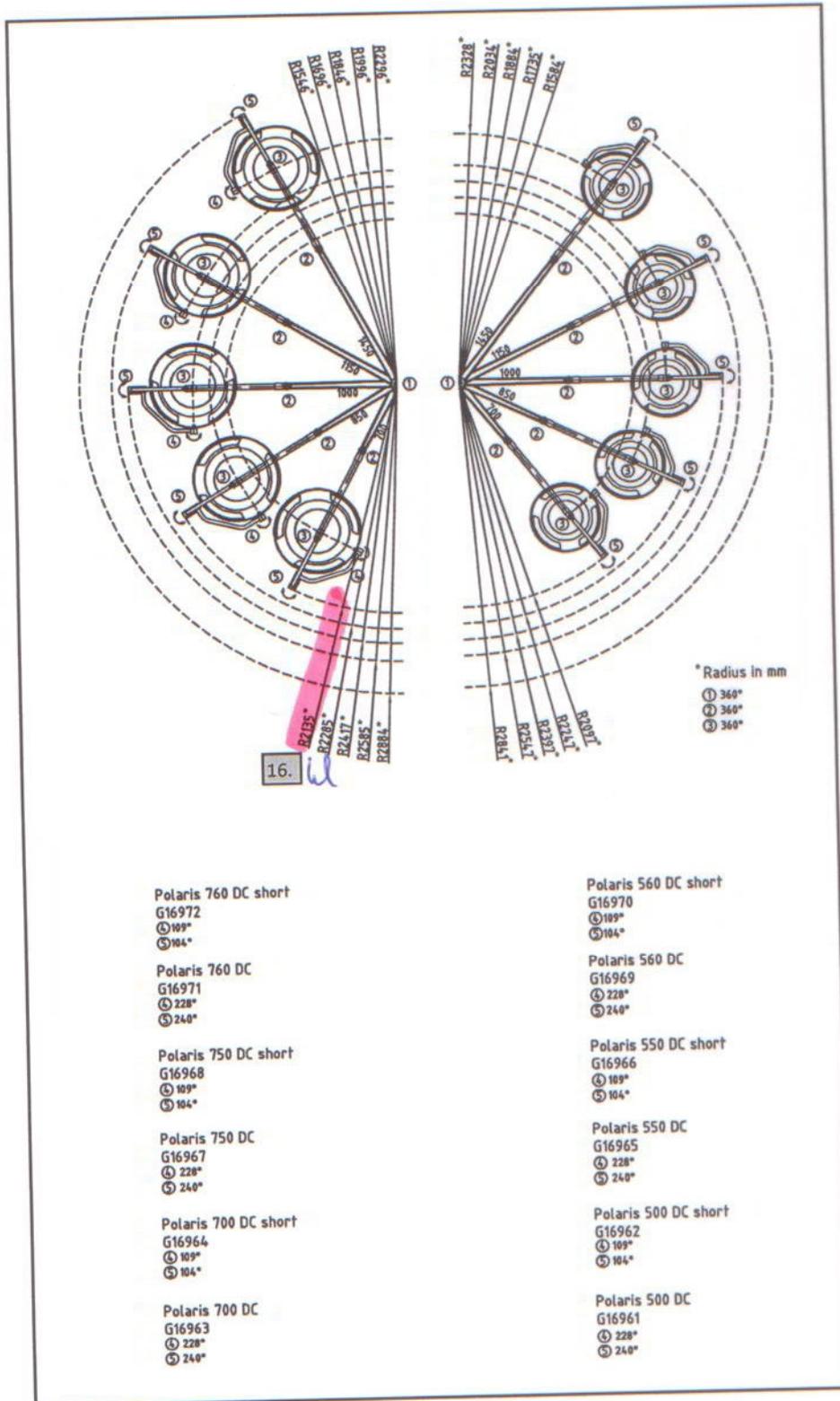
HEADQUARTERS
 Drägerwerk AG & Co. KGaA
 Moislinger Allee 53-55
 23558 Lübeck, Germany

www.draeger.com

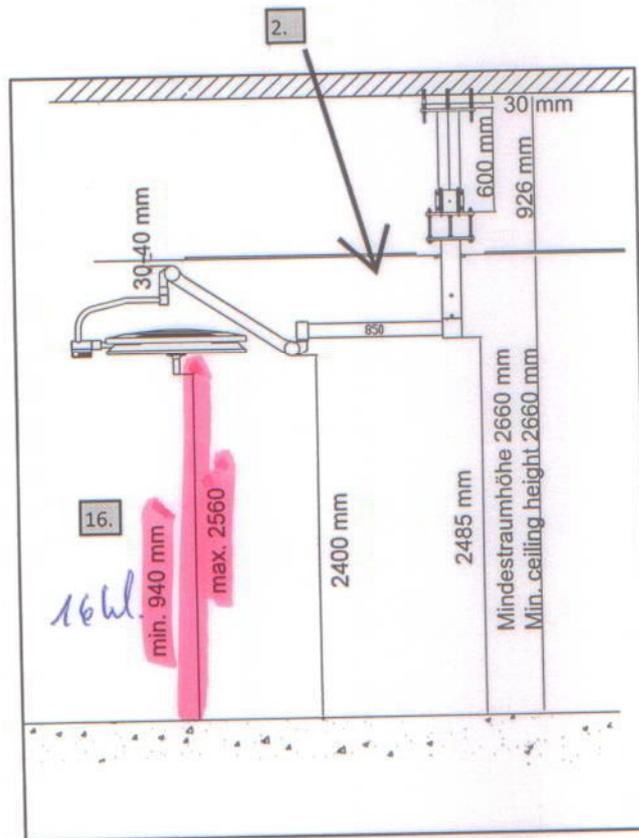
USA
 Draeger Medical, Inc.
 3135 Quarry Road
 Telford, PA 18969-1042, USA
 Tel +1 215 721 5400
 Toll-free +1 800 437 2437
 Fax +1 215 723 5935
info.usa@draeger.com

Manufacturer:
 Dräger Medical GmbH
 23542 Lübeck, Germany
 The quality management system at
 Dräger Medical GmbH is certified
 according to ISO 13485, ISO 9001
 and Annex II.3 of Directive 93/42/EEC
 (Medical devices).

Radiuses and Swivel Range of Polaris



Ceiling height: schematic examples of calculation



Polaris 700 DC short with flat cover