Dräger medical
A Dräger and Siemens Company

Infinity® $etCO_2$+ Respiratory Mechanics Pod

TECHNICAL DATA

Now you can view respiratory parameters, waveforms and flow loops together with hemodynamic data on the same display – both on bedside monitors and also at remote locations across the Infinity® Network. The Infinity $etCO_2$+ Respiratory Mechanics Pod provides an extensive overview of the patient's pulmonary status. The pod can also serve as a trend indicator of blood-gas changes, reducing the need for costly blood-gas measurements.

Features

- Lets you view respiratory and hemodynamic data on same display
- Provides broad view of patient's pulmonary status, including parameters, waveforms and flow loops
- Indicates blood-gas trend changes

Measuring Capabilities

Capnography parameters	Definition
CO_2	Carbon dioxide
i CO_2	Inspired CO_2 (also CO_2 i) (Fi CO_2)
$PaCO_2$	Partial pressure arterial CO_2
$PeCO_2$	Mixed expired CO_2
$etCO_2$	End-tidal CO_2, at end-expiration
Advanced CO_2 measurements	
$TVCO_2$	Portion of CO_2 in tidal volume ML/breath for a single breath
VCO_2	Volumetric CO_2 is volume of CO_2 eliminated over one minute
TV alv s	Alveolar portion of tidal volume, spontaneous
TV alv m	Alveolar portion of tidal volume, mechanical
MV alv s	Alveolar minute volume, spontaneous
MV alv m	Alveolar minute volume, mechanical
TVd	Dead space portion of tidal volume
TVd_{aw}	Airway portion of TV dead space
TVd_{alv}	Alveolar portion of TV dead space
TVd_{phys}	Total physiological dead space = airway + alveolar dead space
TVd/TV	Dead space to tidal volume ratio
TVd/TV_{phys}	Total physiological dead space to tidal volume ratio
TVd/TV_{aw}	Airway dead space to tidal volume ratio
V_D/V_T	Same as TVd/TV_{phys}

Respiratory mechanics parameters

RRs	Respiratory rate, spontaneous
RRm	Respiratory rate, mechanically ventilated
I:E	Inspiratory: Expiratory ratio
TV	Tidal volume (also V_T)
TVi s	Inspired tidal volume, spontaneous
TVi m	Inspired tidal volume, mechanical
TVe s	Expired tidal volume, spontaneous
TVe m	Expired tidal volume, mechanical
Mve s	Expired minute volume total, spontaneous
Mve m	Expired minute volume total, mechanical
PA_W	Airway pressure
MAP	Mean airway pressure* (also MAWP)
Pause	Plateau pressure, mechanical
PIP	Peak inspiratory pressure
PIF	Peak inspiratory flow
PEF	Peak expiratory flow
PEEP	Positive end-expiratory pressure
$R_{AW\,I}$	Airway resistance, inspiratory
$R_{AW\,E}$	Airway resistance, expiratory
R I	Resistance, Inspiratory
R e	Resistance, Expiratory
C	Lung compliance
Cdyn	Dynamic compliance
Cs	Static lung compliance
MV/CO	Ratio: minute ventilation to cardiac output
RSBI	Rapid shallow breathing Index

* MAP represents Mean Airway Pressure when viewed in the respiratory mechanics window or respiratory parameter boxes. Note that MAP represents Mean Arterial Pressure when viewed in any of the hemodynamic pressure parameter boxes.

Displayed Format

Pressure, flow or volume waveform and end-tidal CO_2
@ 6.25, 12.5, 25 or 50 mm/sec

Loops	Pressure/Volume Flow/Volume

Parameter Box

Paw	PIP, PEEP, MAP, Pause or none
Vent	PIF, PEF, TVi, TVe, RRv, MVe, TVIK or none
$etCO_2$	$etCO_2$, iCO_2, RRc
Purge	Automatic or Manual at patient expiration
Neonatal	16.4 cm^3 air @ 50cm H_2O
Adult/Pediatric	< 2000 mL/min

Measuring Method

CO_2	Dual wavelength non-dispersive infrared (all patient types)
Flow	Fixed orifice differential pressure (all patient types)

Measuring Range

CO_2	0 – 99 mmHg CO_2, partial pressure

Flow

Neonatal (Flow/CO_2)	0.25 – 25 breaths/min
Neonatal (Flow)	0.25 – 40 breaths/min
Pediatric (Flow)	0.5 – 120 breaths/min
Adult/Pediatric (Flow/CO_2, Flow)	2 – 180 breaths/min

Respiration	
CO_2 Sensor	0 – 149 bpm ±1 bpm
Flow, Flow/CO_2 sensor	
Neonatal	10 – 150 bpm
Pediatric	5 – 120 bpm
Adult/Pediatric	2 – 120 bpm
Pressure	±120 cmH_2O (All sensors)
Warmup	
$etCO_2$ Capnostat® III sensor	< 5 min @ 25° C
Flow, Flow/CO_2 sensor	Instant measuring
Calibration	
$etCO_2$ Capnostat III sensor	Verify once a day; calibrate if sensor is moved from one pod to another
Flow, Flow/CO_2 sensor	Automatic
Calibration time	
$etCO_2$ Capnostat III sensor	< 20 sec
Flow, Flow/CO_2 sensor	Not applicable
Accuracy	
$etCO_2$ Capnostat III sensor	0 – 40 mmHg ±2 mmHg 41 – 70 mmHg ±5% of reading 71 – 99 mmHg ±8% of reading
Flow, Flow/CO_2 sensor	
Neonatal (Flow)	Greater of ±3% reading or 0.125 breaths/min (@ ±40 breaths/min)
Neonatal (Flow/CO_2)	Greater of ±3% reading or 0.125 breaths/min (@ ±25 breaths/min)
Pediatric (Flow/CO_2)	Greater of ±3% reading or 0.25 breaths/min (@ ±120 breaths/min)
Adult/Pediatric (Flow)	Greater of ±3% reading or 0.5 breaths/min (@ ±180 breaths/min)
Adult/Pediatric (Flow/CO_2)	Greater of ±3% reading or 0.5 breaths/min (@ ±180 breaths/min)
Airway Pressure	Greater of ±2% reading or 0.5 cmH_20 (@ ±120 cmH_2O)
Gas compensation (OR mode only)	Air, N_2O/O_2, <60% O_2, Heliox
Anesthetic agent compensation	1 – 20 % (user-selectable)
Alarm limits (user-selectable)	For respiration rate, peak inspiratory pressure (upper alarm limit only), positive end-expiratory pressure, minute volume (lower alarm limit only), end tidal CO_2, inspired CO_2 (upper alarm only)
Trends	
24 hour trends are available for all parameters (depending on patient category and ventilation mode)	
Minitrend	(TVi, TVe, TVd_{aw}, MVe, RRs, RRv, Cdyn, C20/Cdyn, $etCO_2$, Raw e, PEF, TValv, MValv, and VCO_2)

TECHNICAL DATA

Split Screen

Off, 60-min. minitrends, 10-min. minitrends or ventilation

Recordings

Analog respiratory waveform can be printed on the R50 series recorder strip chart or laser printer

Product Specification

Flow, Flow/CO_2 sensor dead space

Neonatal (Flow)	< 1 cc
Neonatal (Flow/CO_2)	< 1 cc
Pediatric (Flow/CO_2)	< 4 cc
Adult/Pediatric (Flow)	6.5 cc
Adult/Pediatric (Flow/CO_2)	8 cc
Power source	Power directly from the monitor via Pod Comm connection
Connectors	Flow sensor, combined CO_2/flow sensor (encoded for automatic patient category identification); CO_2 sensor connector (20-pin); monitor connector (7-pin)

Standards

Free Fall: IEC68-2-32, Operational after 20 drops from 1 meter

Operational Shock: IEC68-2-27, 50G Peak, half-sine, 11 msec

Sinusoidal Vibration IEC68-2-6, 2G Peak

Physical Specifications

Size (H x W x D)

Pod	140 x 140 x 51 mm (5.5 x 5.5 x 2 in.)
etCO_2 sensor	33 x 42 x 22 mm (1.3 x 1.7 x 0.9 in.)

Weight

Pod	540 g (1.2 lbs) without cable

Environmental Requirements

Temperature range	Operating: 10°C to 40°C (50°F to 104°F) Storage: -20°C to 50°C (-4°F to 122°F)
Relative humidity	Operating: 20% to 90%, non-condensing Storage: 10% to 95% (with packaging)
Atmospheric pressure	Operating: 525 to 795 mmHg Storage: 375 to 795 mmHg

Ordering Information

Infinity etCO_2+ Respiratory Mechanics Pod 5740704

Includes: pod, 3 meter intermediate cable and IV pole mount

For a complete list of Dräger Medical approved accessories, contact your local Dräger Medical representative.

Europe, Middle East, Africa, Latin America, Asia, Pacific:

Dräger Medical AG & Co. KG
Moislinger Allee 53–55
23542 Lübeck
GERMANY
Tel: +49-451-882-0
Fax: +49-451-882-2080
E-mail: info@draeger.com

USA:

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

Canada:

Draeger Medical Canada, Inc.
120 East Beaver Creek Road Suite 104
Richmond Hill Ontario L4B 4V1
CANADA
Tel: +1-905-763-3702
Toll-free: +1-866-343-2273
Fax: +1-905-763-1890
E-mail: Canada.Support@draeger.com

www.draeger.com

Manufacturer:
Draeger Medical Systems, Inc.
Telford, PA 18969 USA

The quality management system at Draeger Medical Systems, Inc. is certified according to ISO 13485, ISO 9001 and Annex II of Directive 93/42/EEC (Medical devices).

90 50 715 / 04.07-1 / gtneo / Printed in United States / Chlorine free - environmentally compatible / Subject to modifications / © 2007 Dräger Medical AG & Co. KG