

Infinity® etCO₂ + Respiratory Mechanics Pod

The Infinity etCO₂ + 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 the same display at the bedside and in remote locations across the Infinity Network
- Provides broad view of patient's pulmonary status, including parameters waveforms and flow loops
- Indicates blood-gas trend changes

TECHNICAL DATA

Measuring Capabilities

Capnography parameters	Definition
CO ₂	Carbon dioxide
iCO 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 (sidestream)

Advanced CO₂ 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}



Infinity etCO₂ + Respiratory Mechanics Pod

Integrates respiratory parameters, waveforms and flow loops with hemodynamic data on one display

CONTINUING TECHNICAL DATA**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
C _{dyn}	Dynamic compliance
C _s	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 CO₂ @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 ₂ O
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
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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
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Flow, Flow/CO₂ sensor

Neonatal	10 – 150 bpm
Pediatric	5 – 120 bpm
Adult/Pediatric	2 – 120 bpm
Pressure	±120 cmH ₂ O (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

CO₂ Performance

etCO ₂ Capnostat III sensor	0 – 40 mmHg ±2 mmHg
(Flow or Flow/CO ₂)	41–70 mmHg ±5% of reading 71 – 100 mmHg ±8% of reading

Flow, Flow/CO₂ sensor performance

Neonatal (Flow)	Greater of ±3% of reading or 0.125 breaths/min (@ ±40 breaths/min)
Neonatal (Flow/CO ₂)	Greater of ±3% of reading or 0.125 breaths/min (@ ±25 breaths/min)
Pediatric (Flow/CO ₂)	Greater of ±3% of reading or 0.25 breaths/min (@ ±120 breaths/min)
Adult/Pediatric (Flow)	Greater of ±3% of reading or 0.5 breaths/min (@ ±180 breaths/min)
Adult/Pediatric (Flow/CO ₂)	Greater of ±3% of reading or 0.5 breaths/min (@ ±180 breaths/min)

Pressure performance

Airway Pressure	Greater of ±2% reading or 0.5 cmH ₂ O (@ ±120 cmH ₂ O)
Gas compensation (OR mode only)	Air, N ₂ O/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)

Mini trend	(TVi, TVe, TVd _{aw} , MVe, RRs, RRv, Cdyn, C20/Cdyn, etCO ₂ , Raw e, PEF, TValv, MValv, and VCO ₂)
Split screen	Off, 60 min. mini trends, 10 min. mini trends or ventilation
Recordings	Analog respiratory waveform can be printed on the R50 recorder strip chart or laser printer

CONTINUING TECHNICAL DATA

PRODUCT SPECIFICATIONS

Flow, Flow/CO₂ 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)

Physical Specifications

Size (H x W x D)

Pod	140 x 140 x 51 mm (5.5 x 5.5 x 2.0 in.)
Capnostat™ III sensor	33 x 42 x 22 mm (1.3 x 1.7 x 0.9 in.) (excluding cable)

Weight

Pod	0.54 kg (1.2 lb)
Capnostat™ III sensor	18g (0.63 oz) (excluding cable)
Flow sensor	59g (2.08 oz.)

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 (70 to 106 kPa)
Storage	375 to 795 mmHg (50 to 106 kPa)

Standards

IEC 60601-1 and applicable particular and collateral standards, IEC 60601-1-2, Electromagnetic compatibility CISPR 11, Class B.

ORDERING INFORMATION

Infinity etCO₂ + Respiratory 5740704

Mechanics Pod

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

Designed for use with Infinity Delta, Delta XL, Kappa Kappa XLT and Siemens SC 7000, SC 8000 and SC 9000XL monitors.

Contact your local Dräger sales representative for further ordering information

Capnostat is a registered trademark of Respirationics

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