



Capnography Pod



Pod attached to the qube monitor

Summary

The Capnography Pod is a sidestream gas analyzer designed to measure the concentration of carbon dioxide in a gas mixture and to aid in determining the patient's ventilatory, circulatory, and metabolic status. Its small, compact form makes it ideal for use with the qube® monitor (see photo) and qube® mini monitor.

The Capnography Pod includes a small, lightweight sensor that continuously measures the end-tidal and minimum carbon dioxide (CO₂) levels in the patient's airway. The sensor is connected to the airway by a disposable or reusable Nomoline sample line. A constant-flow vacuum system maintains the flow rate through the sample line.

Features

Measurement of Respiration Rate and Carbon Dioxide	Continuously measures end-tidal CO ₂ , minimum CO ₂ , and respiration rate
Suspend Mode	Disables gas sampling while maintaining power to the sensor to minimize warm-up time between cases
Pressure Compensation	Automatically compensates for ambient barometric pressure assuring measurement accuracy

Product Specifications

Physical Dimensions

Height	9.7 cm (3.8 in)
Width	7.5 cm (3 in)
Depth	5.8 cm (2.3 in)
Weight	0.3 kg (0.6 lb)



Carbon Dioxide	Sidestream — FiO_2 and ETCO_2 are displayed after one breath and have a continuously updated breath average. ET will typically decrease below nominal value (ET_{nom}) when respiration rate (RR) exceeds the RR threshold (RR_{th}) according to the following formula: $\text{CO}_2: \text{ET} = \text{ET}_{\text{nom}} \times 125/\text{RR}$ for $\text{RR}_{\text{th}} > 125$ Measured at I/E ratio 1:1 using breath simulator according to EN ISO 80601-2-55 fig. 201.101
Range	0 to 120 mmHg (0 to 16 kPa), 15%
Resolution	1 mmHg (0.1 kPa), 0.1%
Measurement Rise Time	<250 msec typically
Accuracy	$\pm(0.2 \text{ vol}\% + 2\% \text{ reading})$
Values	Inspired/expired
Gas Cross Effects	<0.2% (O_2 , N_2O , anesthetic agents)
Respiratory Rate	Measurement based on CO_2 waveform; breath detection is based on a 1% change in CO_2 level Measured at I/E ratio 1:1 using breath simulator according to EN ISO 80601-2-55 fig. 201.101
Range	1 to 150 BPM
Accuracy	± 1 BPM
Apnea	
Range	20 to 45 seconds
Resolution	5 seconds
Accuracy	± 1 second
Warm Up	<10 seconds for concentration reporting and full accuracy specification
Sample Line Flow Rates	50 ml/min ± 10 ml/min
Total System Response Time	Sidestream: <3 seconds
CO_2 Waveform Scales	Selectable at 0 to 120 mmHg, 0 to 100 mmHg, 0 to 80 mmHg, 0 to 60 mmHg, 0 to 40 mmHg, 0 to 15 kPa, 0 to 12.5 kPa, 0 to 10 kPa, 0 to 7.5 kPa, 0 to 5 kPa, 0 to 15%, 0 to 12.5%, 0 to 10%, 0 to 7.5%, 0 to 5%
Waveform Speeds	Selectable at 25, 12.5, 6.25, 3.12, or 1.56 mm/second
Measurement Units	%, mmHg, kPa for CO_2 ; BPM for respiration rate
Alarms	User-selectable; respiration rate (high and low limits), EtCO_2 (high and low limits), MINCO_2 (high limits), and apnea
Gas Calibration	Calibration from external gas mixture
Occlusion	Automatically detects and attempts to clear sample line occlusions
Suspend Sampling	In suspend mode, sensors continue to operate but pumps stop and waveform and numeric zones are cleared, allowing sensors to remain warmed up.



Monitor Compatibility	qube 91390 qube mini 91389
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Classification

MDD	Class IIb
EN 60601-1	Class I – Type BF defibrillator proof Device is not affected by patient defibrillation
CISPR11	Group 1, Class B Suitable for use in domestic establishments connected to a low-voltage supply network

Electrical Specifications

Power supplied by monitor.

Environmental Requirements

Operating

Temperature	0° to 50° C (32° to 122° F)
Ambient Humidity	95% (non-condensing)
Atmospheric Pressure	394 to 900 mmHg (52.5 to 120 kPa)

Storage

Temperature	-40° to 70° C (-40° to 158° F)
Ambient Humidity	95% (non-condensing)
Altitude	0 to 12,192 meters (0 to 40,000 feet)

Accessories

Refer to the *Spacelabs Healthcare Supplies and Accessories Catalog* for availability of the specially designed Nomoline sample lines and accessories.

Nomoline Sampling Adapter (single patient use)	P/N 015-0683-00
Nomoline Sampling Adapter (reusable)	P/N 103-0234-00
Nomoline Line Extension (single patient use)	P/N 166-7085-00

Documentation

CD-ROM Part Numbers

Bedside, Central, and Telemetry Systems Operations Documents CD-ROM
(P/N 084-1101-xx)

Spacelabs Healthcare Service Documents CD-ROM
(P/N 084-0700-xx)

Supplies and Accessories

Spacelabs Healthcare Supplies and Accessories Catalog
(sa.spacelabshealthcare.com)

Regulatory Approvals



CSA certified. Meets IEC 60601-1, CAN/CSA C22.2 No. 60601-1, and ANSI/AAMI ES60601-1 for electrical safety, and ISO 80601-2-55 for respiratory gas monitors.



CE marked in accordance with the Medical Device Directive 93/42/EEC.



Does not contain hazardous substances - Europe



Does not contain hazardous substances - China

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