

## **Capnography Devices - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)**

Market Report | 2025-06-01 | 114 pages | Mordor Intelligence

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### **Report description:**

Capnography Devices Market Analysis

The Capnography market size reached USD 626.84 million in 2025 and is on track to attain USD 889.50 million by 2030, reflecting a 7.25% CAGR through the forecast period. Rising recognition of capnography as a front-line safeguard against respiratory compromise and its expanding role in early sepsis detection keep demand firm across acute, ambulatory and home-care settings. Growth is reinforced by steady procedural volume gains, especially in outpatient centers where continuous CO<sub>2</sub> monitoring is now considered essential for patient safety. Technology innovation is accelerating, led by AI-enhanced waveform analytics, micro-stream sensors that operate at ultra-low flows and wireless form factors that integrate seamlessly with remote patient-monitoring hubs. The Capnography market is also benefitting from widening professional-society endorsements that make CO<sub>2</sub> monitoring mandatory for moderate sedation, gastrointestinal endoscopy and opioid-based pain management, prompting hospitals to retrofit existing monitors with capnography modules. While supply-chain pressures and technologist shortages weigh on installation timelines, the underlying demand drivers remain intact, pointing to a resilient medium-term outlook.

Global Capnography Devices Market Trends and Insights

Rising Number of Surgeries Worldwide

Ambulatory surgical centers treated 3.3 million Medicare beneficiaries in 2024, underscoring a systemic shift toward outpatient care where reliable respiratory monitoring is indispensable. Enhanced recovery protocols and increasingly complex minimally

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invasive techniques demand real-time CO<sub>2</sub> measurement to catch hypoventilation before oxygen saturation drops. As more specialties adopt moderate sedation outside the operating room, Capnography market adoption widens among gastroenterologists, cardiologists and pain-management teams. Purchasing decisions now prioritize monitors that are portable, battery-powered and Wi-Fi-enabled, allowing seamless use from pre-op to discharge bays. Vendors that bundle disposables under value contracts are gaining traction by lowering per-procedure costs in price-sensitive ambulatory settings.

### Growing Prevalence of Respiratory Diseases

Chronic respiratory illnesses such as COPD and post-viral complications continue to rise, pushing healthcare providers to adopt continuous CO<sub>2</sub> monitoring for early deterioration detection. Capnography has demonstrated higher sensitivity than pulse oximetry alone in identifying hypoventilation, which is driving protocols that combine both modalities in respiratory wards. Sleep labs increasingly deploy portable capnographs for home-based studies, supporting faster diagnosis and treatment initiation for obstructive sleep apnea. Public-health agencies warn of elevated readmission rates tied to undetected nocturnal hypoventilation, prompting insurers to reimburse capnography use in chronic-care bundles. These dynamics nurture sustained Capnography market expansion across in-patient and at-home environments.

### Shortage of Skilled Respiratory & Anesthesia Technologists

Vacancy rates for respiratory therapists and anesthesia technologists surpassed 12% in 2024, a record high that slows new-device rollouts. Facilities without sufficient expertise struggle to interpret complex waveform anomalies, under-utilizing advanced functions and weakening the clinical value proposition. Vendors respond with auto-interpretation software and interactive tutorials to shorten learning curves, but onboarding still extends procurement cycles. Academic programs expand enrollment yet face faculty shortages, signalling that labor tightness will persist into the medium term. Consequently, some hospitals defer capnography upgrades until staffing stabilizes, tempering near-term Capnography market momentum.

Other drivers and restraints analyzed in the detailed report include:

Technological Advancements in Capnography / Strong Professional-Society Recommendations / High Capital & Disposable Costs of Capnography Systems /

For complete list of drivers and restraints, kindly check the Table Of Contents.

### Segment Analysis

The Capnography market size for stand-alone systems accounted for USD 349.8 million in 2024, equivalent to 55.81% of total revenue. Hospitals value their full-screen displays, waveform storage and advanced alarm options that support critical-care workflows. However, hand-held devices are carving out a rapid 8.15% CAGR thanks to emergency medical services, transport teams and dental practices that require light, battery-powered units. In many regions, EMS protocols now treat capnography as a standard vital sign for intubated patients, propelling bulk purchases by ambulance fleets.

Demand for mobility also spurs hybrid cart-mounted solutions that dock hand-held modules when high-resolution analysis is needed. Manufacturers integrate Bluetooth and cellular modems so paramedics can stream waveforms to emergency departments for pre-arrival triage. As connectivity expands, software subscriptions become a rising share of product revenue, aligning vendor incentives with device uptime. This ecosystem approach positions portable platforms to capture incremental Capnography market share even while stand-alone consoles remain indispensable for intensive-care environments.

Side-stream analyzers retained the largest Capnography market share at 62.35% in 2024, favored for versatility and compatibility

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with existing monitors. Yet micro-stream units are growing at an 8.38% CAGR and are expected to narrow the gap by 2030. Their ultra-low sampling flow minimizes dead-space impact and improves accuracy in neonates, obese patients and those with low tidal volumes. Clinical studies reveal superior correlation between end-tidal CO<sub>2</sub> and arterial PaCO<sub>2</sub> across variable breathing patterns, reinforcing clinician confidence.

Operational efficiency is another selling point: closed water traps slash filter changes and reduce alarm fatigue from clogging. Lower disposables usage limits waste generation, an increasingly important procurement criterion under hospital sustainability mandates. As micro-stream sensors transition from proprietary to semi-standard connectors, price premiums are expected to compress, accelerating conversions. Main-stream technology will remain important in operating rooms that prefer airway-attached cuvettes to avoid sampling delays, but its share is likely to plateau over the forecast horizon.

The Capnography Devices Market Report Segments the Industry Into by Product (Hand-Held, Stand-Alone), by Technology (Side Stream, Main Stream, Micro Stream), by Application (Critical Care, Sleep Studies, and More), by End-User (Hospitals, Ambulatory Surgical Centers, Other End-Users), and Geography. The Market Sizes and Forecasts are Provided in Terms of Value (USD).

### Geography Analysis

North America remained the largest regional contributor with 42.81% of 2024 revenue, buoyed by early clinician adoption, broad reimbursement and a strong supplier footprint. Federal alignment with ISO 13485 and swift 510(k) pathways shorten time-to-market for product enhancements, keeping domestic portfolios current. Strategic interoperability alliances, such as the 2024 Masimo-Philips integration that embedded NomoLine technology into multi-parameter monitors, give providers a simpler upgrade roadmap.

Europe delivers steady, replacement-driven growth anchored in stringent safety protocols. The European Commission's 2025 supply-chain transparency rules compel manufacturers to confirm continuity of capnography disposables, fostering resilient procurement frameworks. National health systems favor integrated monitors that consolidate capnography, oximetry and hemodynamics to minimize bedside clutter. Meanwhile, regional funding for digital health pilots accelerates adoption of cloud-connected capnographs in rural clinics.

Asia-Pacific represents the fastest-growing region with a 9.51% CAGR to 2030, propelled by rising surgical volumes, urban hospital construction and increasing chronic respiratory disease incidence. Government initiatives that subsidize ICU bed expansion in China and India indirectly galvanize Capnography market demand. Although country-specific regulatory timelines vary, the push for local manufacturing partnerships is reducing import tariffs and speeding deployments. Australia, Japan and South Korea continue as premium-technology markets where AI-enhanced waveform analysis commands early attention. Middle East & Africa and South America trail in adoption but show upticks where public-private partnerships bring modern critical-care infrastructure to tertiary centers.

### List of Companies Covered in this Report:

Medtronic / Koninklijke Philips / Masimo / Drägerwerk / Nihon Kohden / Beckton Dickinson / Smiths Medical (Smiths Group) / Nonin Medical / SunMed / Infinium Medical / Welch Allyn (Hillrom / Baxter) / DiMedica / GE Healthcare / Zoll Medical / Hamilton Medical / Mindray / Teleflex / Capnomed / Qinhuangdao Kapunuomaite Medical / CapnoMedical (CapnoAcademy) /

### Additional Benefits:

<ul> The market estimate (ME) sheet in Excel format /  
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#### 6.3.3 Masimo Corporation

#### 6.3.4 Dragerwerk AG & Co. KGaA

#### 6.3.5 Nihon Kohden Corporation

#### 6.3.6 Becton, Dickinson and Company

#### 6.3.7 Smiths Medical (Smiths Group)

#### 6.3.8 Nonin Medical, Inc.

#### 6.3.9 SunMed

#### 6.3.10 Infinium Medical, Inc.

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- 6.3.11 Welch Allyn (Hillrom / Baxter)
- 6.3.12 DiMedica
- 6.3.13 GE Healthcare
- 6.3.14 Zoll Medical Corporation
- 6.3.15 Hamilton Medical AG
- 6.3.16 Shenzhen Mindray Bio-Medical Electronics
- 6.3.17 Teleflex Inc.
- 6.3.18 Capnomed
- 6.3.19 Qinhuangdao Kapunuomaite Medical
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