BPC® Titan

A universal gas volume and flow meter for high gas production

BPC INSTRUMENTS

BPC Titan - high-volume gas flow measurement for microbial fermentation

BPC Titan

The BPC Titan is a unique and smart analytical instrument ideal for processes with high gas production, with a wide linear detection range up to 360 L/h and measurement resolution of 1.5 L. It simplifies complex processes through a user-friendly interface that provides instant feedback and real-time data monitoring. The robust design of the BPC Titan ensures precise and accurate gas measurements across large flow rate intervals, making it highly suitable for both research and industrial applications. This instrument is an enhanced version of the BPC Go, offering advanced features and improved performance to take gas measurement to the next level.

Why choose BPC Titan?

If there is a need for real-time online gas flow and volume measurement in large lab-scale and small pilot-scale fermentation processes, BPC Titan is the superior instrument for the task. It allows the monitoring of both continuous and batch process with high precision and ease. From setup to operation, BPC Titan simplifies every step, ensuring seamless, automated processes, including:

- A pre-calibrated system with optimal precision and accuracy.
- User-friendly operation, significantly reducing time and labor demands.
- Standardized measurements, data handling, and reporting.
- An intuitive web-based interface that manages the operation in real-time.

Effortless Setup and Operation

Starting with the BPC Titan is easy. With just two steps—filling the instrument with deionized water and connecting it to a power source—you can begin your process without the need for calibration. This streamlined setup saves time and reduces potential errors, making your workflow more efficient. The BPC Titan features an intuitive OLED screen that allows users to effortlessly interact with the instrument. Access vital parameters such as accumulated gas volume and flow rate directly from the screen, making it easy to monitor and adjust your experiments in real time.

Comprehensive Data Management

The BPC Titan integrates a flow cell unit embedded with a data acquisition unit, ensuring all data is saved securely on the instrument. Access your data locally or remotely from any device with a web browser, providing you with flexibility and convenience in managing your experiments. With inbuilt storage and processing handled by an embedded controller, the BPC Titan ensures that your measurements and data acquisition are secure and reliable.

High Performance:

Wide Detection Range: The BPC Titan features a linear detection range of up to 360 L/h, with a measurement resolution of 1.5 L. This wide detection range allows for precise measurements across a broad spectrum of gas volumes and flow rates, making it an ideal choice for high-demand applications.

New Flow Cell Design: The innovative flow cell design of the BPC Titan ensures accurate gas measurements over a large flow rate interval. This design enhancement improves measurement precision and reliability, making the BPC Titan a superior choice for high-precision applications.

BPC Titan applications

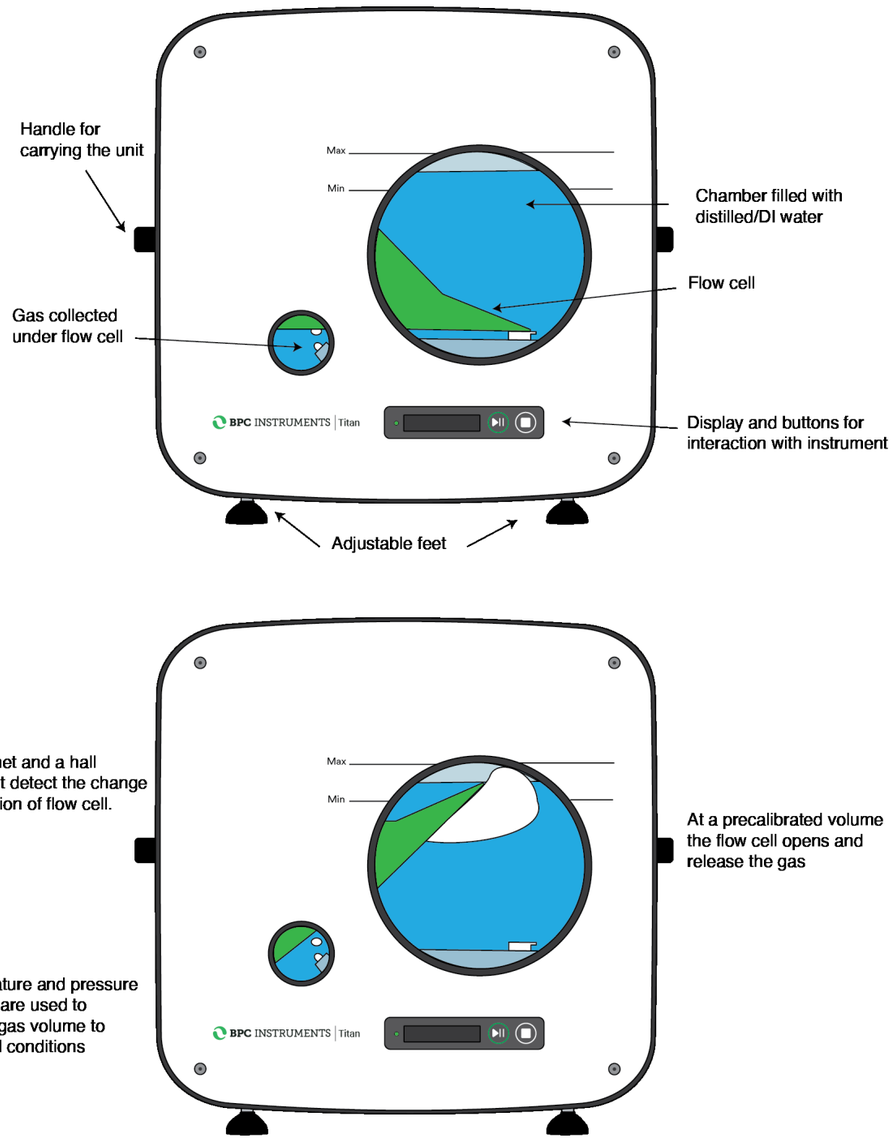
Measure high gas volume and flow for a wide range of applications

Broad Range of Applications

The BPC Titan is engineered to support a diverse array of applications. In the renewable energy sector, It is ideal for monitoring any microbial fermentation processes that require aeration, gas throughput, or processes associated with gas generation in large lab-scale and small pilot-scale operations. Process engineers and scientists can leverage BPC Titan for real-time online monitoring of gas flow and accumulated gas volume from a reactor inlet or outlet. Additionally, its accuracy, precision, and robustness make it ideal for biological fermentation processes, as well as waste and wastewater treatment, where precise gas flow or volume measurement is crucial for studying the dynamic aspects of the process. Each application benefits from the system's adaptability and precision, ensuring reliable results across varied environmental and operational conditions.

- Biogas or biomethane production
- Biohydrogen generation
- Ethanol fermentation
- Other fermentation processes associated with gas production and consumption.

BPC Titan working principle



A magnet and a hall element detect the change of position of flow cell.

Temperature and pressure sensors are used to present gas volume to standard conditions

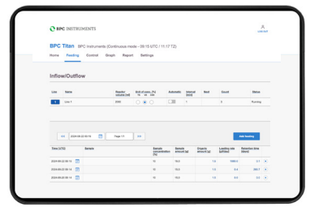
At a precalibrated volume the flow cell opens and release the gas

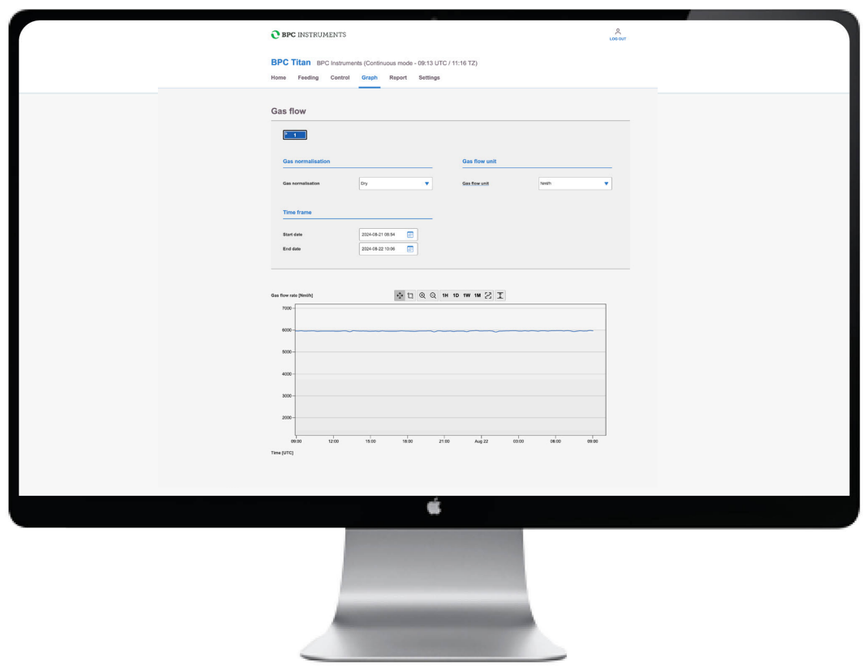
AURORA Software
– pre-installed on BPC Titan

Experience the power of Aurora software
Aurora is BPC Instruments cutting-edge software solution for its lab instruments, bringing your experiments to life. With its streamlined design, setting up experient, monitoring progress, and downloading results becomes effortless. Aurora comes pre-installed on BPC Titan, eliminating the need for software licences or installation on an external computer.

Realtime data standardisation
Through real-time temperature and pressure compensation, Aurora normalises the measured gas volume and flow under standard conditions (i.e., 0 °C, 1 atm and zero moisture) at each measurement point. This allows seamless switching between volume and mass units during an experiment and facilitates easy data comparison between different laboratories worldwide.

Access results anywhere, anytime, on any device
BPC Titan is designed for convenient access from any remote location using a web browser on your preferred device. Monitor your experiment from the comfort of your office, or home using your computer, tablet or smartphone. Expand the analytical capacity of BPC Titan effortlessly by connecting multiple instruments together with an Ethernet switch. With this feature, each BPC Titan can operate as a standalone device or be connected in parallel, catering to your specific needs.





BPC Titan technical specifications

Features

- **Dual-Mode Operation:** The BPC Titan supports both batch and continuous mode experiments, providing flexibility for various experimental designs.
- **Web-based convenience:** The user-friendly web-based software running on an embedded server, eliminating the need for software installation on PC, tablet or smartphones.
- **Remote access:** BPC Titan can be accessed remotely and locally from any device with a web browser, providing flexibility and convenience.
- **Standalone Operation:** The instrument operates independently of external computers and additional data acquisition units. In addition to this, there is no need for any software installation.
- **Local data storage:** All data is stored locally on the instrument, eliminating the dependence on external computers and ensuring data security.
- **Standardized Results:** Ensures consistent and reliable data output during different experiments and conditions.
- **Precision Leveling:** Equipped with an accelerometer and four adjustable feet to ensure the flow cell is horizontally leveled, which is crucial for accurate measurements.
- **Agitation Control:** Offers an option for agitation control of BPC mechanical agitation to maintain uniform conditions within the reactor, ensuring consistent gas production rates.
- **Advanced Algorithm:** Features an algorithm designed to avoid over- or underestimation of gas flow and volume, enhancing measurement accuracy.
- **Operational Diagnostics:** Includes a system log for operational diagnosis, helping users troubleshoot and maintain the instrument effectively.

Measurement performance

Working principle: liquid displacement and buoyancy

Measurement resolution: 1.5 L

Detection capacity: 22 500 m^3

Measuring range: 0.1 to 360 l/h

Repeatability: CV ≤ 1%

Gases: Non aggressive gases (e.g. CH_4, CO_2, H_2, N_2,...)

Technical

Built-in sensors: Temperature, Pressure, Hall, Accelerometer

Connections: Ethernet, Power supply, USB B, Motor control

Display: OLED 2.8” 256 x 64 white

Housing: Aluminium, compact laminate and plastic

Power supply: 12 V DC / 1.0 A with 100-240 VAC

Usage: Indoor

Measurement medium: Deionised or distilled water

Operation temperature: 0 - 50 °C

Operation pressure: -50 – 50 mbar

Measurement and weight

Height: 52 cm

Witdh: 58 cm

Depth: 21 cm

Weight: 20.3 kg

Gas connector diameter: ID: 9 mm; OD: 13 mm

Recommended tube size: ID: 12 mm; OD: 16 mm

Committed to **Your Success**: Prioritizing Your User Experience

We take pride in providing support throughout the lifetime of our products. This applies to products covered under warranty, and even products where the warranty period has expired. Our goal is to ensure your instrument always works and continually delivers value.

Your User Experience is Our Top Priority

At BPC Instruments, we value your experience with our products and services. Each year, our extensive customer surveys provide us with essential feedback on how effectively we are meeting your needs and guiding you through the complexities of our offerings.

Annual Customer Surveys: A Tool for Continuous Improvement

Our annual surveys are a critical part of our commitment to continuous improvement. By systematically collecting and analyzing your feedback, we gain a clearer understanding of where we excel and where there is room for enhancement.

Survey Results Highlight Strong Satisfaction

We are proud to share our latest results, which involved over 900 participants, showing that our commitment to quality and service continues to be highly rated by our users:

95%

Customer Support Satisfaction:
95% of respondents expressed very high satisfaction with our customer support team's responsiveness and effectiveness.

92%

Product Quality and Reliability:
92% of participants praised the overall quality and reliability of our products.

92%

Recommendation Rate:
92% of our customers said they would recommend BPC Instruments to others.

Customer Voices

"BPC Instruments stands out for their consistent reliability. It's not only the products themselves but also the dedicated team behind them that contributes to their quality."

"Whenever I've reached out for support, the response has been quick, thorough, and extremely helpful. It's clear that customer satisfaction is a core value at BPC Instruments."

*"In general, I would also like to say that we highly appreciate the support BPC have given us through the years. It is always quick, thorough and reliable.
So once again thank you!"*

Excellence is built on precision and accuracy

BPC Instruments is a global Swedish-based technology company developing and offering analytical instruments enabling more efficient, reliable, and high quality of research and analysis for industries in renewable bioenergy and environmental biotechnology. The result is not only higher accuracy and precision, but also significant reduction in time consumption and labour requirement for performing analyses. BPC Instruments' innovative products offer high-quality hardware and software based on deep knowledge and experience of target applications. The solutions are the first of their kind, making the company a pioneer in its field. Today, BPC Instruments exports to nearly 70 countries around the world.

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