*Just Add Gas*

**BWB** Technologies

## BWB Flash Flame Photometer

Li 3   Na 11   K 19   Ca 20

# Just Add Gas

# Flame photometers that push the boundaries of low temperature flame analysis.

Analysis with a low temperature propane, LPG, or butane flame has been redefined by BWB Technologies.

Just Add Gas

BWB Technologies

# Our Mission

To redefine the boundaries of Flame Emission Spectroscopy (FES) by supplying unique, cost effective, reliable and accurate flame photometers (and related products) and to build strong, lasting relationships with our customers by providing the best customer service in the industry.

### About BWB Technologies
BWB Technologies is a UK company focused on the design, manufacture and sales of award winning flame photometers. Drawing on an Anglo-American team of leading industry specialists, we strive to create high quality, cost effective products that redefine what is achievable with a low temperature flame. From our manufacturing plant in Newbury, England, BWB Technologies have introduced a series of flame photometer products and accessories which exceed existing expectations in terms of specification, usability, accuracy, reporting, build quality and value for money.

### International support network
BWB Technologies are the only flame photometer manufacturer to have dedicated sales and technical support offices in Europe, The America's and the Middle East. We offer an unsurpassed level of customer support with a 24/7 support service and real people answering customer calls.

### Pushing the boundaries of flame photometry
What can be achieved with a flame photometer has been redefined by BWB Technologies. With unrivalled accuracy, low cost and ease of use the BWB flame photometer is not only the best flame photometer available but is the first real alternative to AAS (atomic absorption spectrometry) and ICP (Inductively Coupled Plasma) for measuring Lithium (Li), Sodium (Na), Potassium (K), Calcium (Ca), Caesium (Cs) and Barium (Ba). The recent introduction of industry specific products for Biological samples, Sugar, Nuclear and others further defines BWB Technologies as the leader in "next generation" flame photometers.

### Best customer service in the industry
• International telephone service available 24/7, with local access numbers in Europe, the USA and the Middle East
• An international distributor network servicing the needs of customers in over 100 countries.
• Fast delivery of spare parts and consumables backed by extensive inventory in multiple strategic locations.
• Pre-sales application specific product selection assistance
• 100's of hours of video training available in a wide choice of languages
• Technically competent customer service staff
• ISO9001 Certified manufacturer
• Excellent Globally acclaimed after-sale support and service by Value Added Distributors and Internet based assistance from GMT and PST time zones.

### Contact Information
BWB Technologies UK Ltd   Unit 7, The Galloway Centre, Hambridge Lane, Newbury, RG14 5TL UK

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E Orders orders@bwbtech.com    Admin admin@bwbtech.com    Technical technicalsupport@bwbtech.com    Sales sales@bwbtech.com
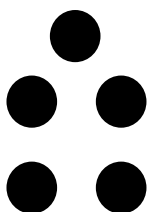www.bwbtech.com   12 months warranty

# Just Add Gas

BWB Technologies

# Common Features

All BWB products are built around the same innovative product design and world leading technologies, sharing the same core features across the range.

## Just add gas!
BWB have revolutionised the flame photometry market by offering an instrument with all accessories supplied as standard. This means that the process of ordering a BWB flame photometer is incredibly simple. There are no complex product codes, accessory lists or ordering requirements. When you order a BWB flame photometer it will arrive with all the accessories you need.

## Up to 5 Channels of simultaneous detection and display
The ability to measure and calibrate up to 5 different ions at the same time offer huge advantages over more traditional instrumentation. As the BWB is the first and only flame photometer to offer simultaneous detection and display, our customers do not need to waste valuable time changing filters and re-calibrating when a different measurement is required.

## Built-in air compressor
Greatly reduces noise and laboratory footprint while increasing instrument stability, accuracy and reproducibility.
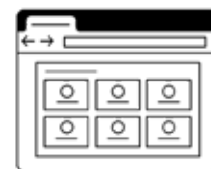
## Advanced calibration system
The ability to store calibration data and perform multi-mode calibrations reduces analysis time significantly and increases accuracy.

## Interfaces
Connect to your PC using USB 2. A 0-2.5volt output is supplied as standard for a chart recorder or for process control a 4-20mA output is available.
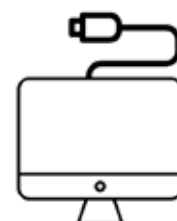
## New modern technology offers increased accuracy and reliability
Introduced in 2005, the BWB flame photometer was designed from the ground up, using new, innovative and modern technology to give unsurpassed levels of accuracy, usability and reliability. With clean lines and contemporary bright colour schemes, the instrument looks exceptionally modern and will fit into any laboratory. The instrument has a large LCD display which can be easily viewed from any angle.

# Common Features

## Computer connectivity as standard!
The FP-PC software package, included with every purchase, has been written with GLP compliance in mind and facilitates the creation of data and reports in .pdf and .csv formats.
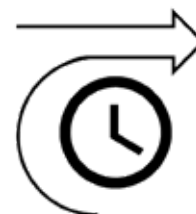
## Ease of use
With exceptional ease of use, a clear backlit liquid crystal display guides users through analysis using simple menu options. The display, used in conjunction with a comprehensive membrane switch panel ensures that accurate and reliable results can be obtained with minimal training.

As modern businesses may experience a large turnover of staff, laboratory managers will appreciate the comprehensive training video supplied with every BWB flame photometer. Our training videos are also available online in over 10 languages at www.bwbtech.com and on BWB's YouTube Channel http://www.youtube.com/user/BWBTechnologiesUKLtd

## Long term savings
Excellent value for money and very low total cost of ownership.

Selective analysis Flame photometry excludes most elements which means very little interference.
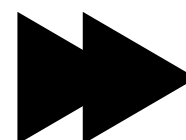
## Reliable & simple
Manipulation of the flame is the only adjustment available to the operator during operation ensuring reliable and accurate measurements every time.

## Fast!
Once the instrument has stabilized it takes just a matter of seconds to obtain results.

## Collection cup
Optional for 'online', continuous measurements, the collection cup turns the BWB Flame Emission Spectrometer (FES) into an 'online', real time, 24/7 analyser with 4-20mA output linked to a single channel. Via a 2 wire output the BWB FP can seamlessly integrate with any SCADA system.  Totally unique and available on all models.

# Green Credentials

We take our green responsibilities very seriously.
We constantly evaluate our processes and procedures in order to minimise the impact to the environment.

This is how we do it.

**Using LED lighting with efficient heating systems across out manufacturing facility**

Utilising only 'green' energy suppliers out electricity is supplied from 100% renewable sources and our natural gas consumption is 100% carbon neutral

**Environmentally friendly packaging created from pre-recycled content or utilising materials that can be easily recycled across the globe**

The use of paper based packaging tape to reduce our plastic consumption and allow our cardboard boxes to be easily recycled.

**Product design considerations such as re-cyclability and life cycle assessments are taken into account at the development phase of our new products**

Striving to meet as many of the United Nations 17 sustainability development goals is a key priority for us in our commitment to protect the environment. We have adapted out processes and products to meet the following goals:

7 AFFORDABLE AND CLEAN ENERGY

11 SUSTAINABLE CITIES AND COMMUNITIES

13 CLIMATE ACTION

8 DECENT WORK AND ECONOMIC GROWTH

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

15 LIFE ON LAND

## Green Credentials

## Tree planting promise

We have our own in house recycling scheme for factory generated waste to ensure that our employees and the company are doing all we can to help protect and preserve the environment

# 2025

In addition we have an ultimate goal to plant 1000 tree for every company employee by 2025

We're proud to be the first Flame Photometer manufacturer to plant trees for every instrument sold. We're committing to planting at least 50 trees for every model of Flame Photometer we sell from 01 May 2021

**Making our blue more green**

BWB Technologies

Li 3  Na 11  K 19  Ca 20

# The BWB Flash

## The newest feature to Flame Photometry

**Finally, a Flame Photometer specific to your needs. The first simultaneous Flame Photometer with built in compressor and configurable element analysis to your requirements.**

The BWB Flash is the first and only fully configurable up to four channel flame photometer that detects and displays all calibrated ions at the same time.

The BWB Flash was created by combining the award-winning features of our XP model with new, innovative, and cutting-edge technology to provide unrivalled levels of accuracy, usability, and reliability while significantly reducing analysis time. When a different measurement is required, our customers do not need to waste valuable time changing filters and re-calibrating, as is a common requirement in all other Flame Photometer designs from 1951 to the present.

The Flash looks exceptionally modern, with clean lines and contemporary bright colour schemes that will fit into any laboratory. The instrument has a large 5'' touch screen display that can be easily viewed from any angle and operated with most laboratory disposable gloves.

Our metal casework creates a sturdy portable instrument with nearly limitless future recycling possibilities. Of course, ROHS-compliant components and materials are used throughout.

The BWB Carbon Footprint is exceptionally low, in keeping with the company's goals of being a responsible manufacturer, and we've succeeded in lowering the gas consumption rate by 13% while also lowering the electricity consumption (kWh) by 26% compared to previous model generations.

Unlike other manufacturers who charge extra for essential accessories, BWB includes everything needed to use the product right away. Simply add Gas!! (Propane, LPG, or butane) We also include data sharing via USB from the BWB Flash to your PC as standard. This connects the BWB Flame Emission Spectrometer (FES) output to the Internet or your company intranet systems, allowing for Distributed Control, which is critical for multinational corporations, universities, and government agencies.

**BWB continues to improve our Flame Photometric systems in order to provide the market with unrivalled quality!**

## + FEATURES

- **LARGE 5'' TOUCH SCREEN DISPLAY COMPATIBLE WITH THE MAJORITY OF DISPOSABLE LABORATORY GLOVES**
- **TRUE EASE OF USE WITH LARGE BUTTONS AND SIMPLE TO UNDERSTAND TEXT AND SYMBOLS**
- **BUILT-IN AIR COMPRESSOR AND GAS REGULATOR**
- **CALIBRATION STANDARDS SUPPLIED AS STANDARD IN 10,000PPM CONCENTRATIONS**
- **AUTO-READ TECHNOLOGY ENABLES OPERATOR INDEPENDENT DETERMINATION OF RESULTS**
- **USER SELECTABLE DECIMAL PLACES**
- **IQ, OQ, PQ WEB-BASED CERTIFICATION AVAILABLE: IQ OQ PQ is completely unique in the analytical instrumentation arena. Available in English, Russian, German, Mandarin, French and Spanish. More languages in development.**
- **COMPLETE SET OF BASIC LABWARE INCLUDED TO GET YOU STARTED**

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# Technical Data

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**Sample rate**
2.5 - 4ml/min

**Tubing materials**
Silicone and Tygon®

**Required desk space for instrument**
101cm* (H) x 45cm (W) x 35cm (D)
*For Safety reasons the Flame photometer requires 1m of unobstructed space above to allow dissipation of heat from the chimney.

**Instrument size**
Flash Flame Photometer
51cm (H) x 33cm (W) x 35cm (D)
(20in x 13in x 14in)
Shipping
65cm (H) x 49cm (W) x 43cm (D)
(25in x 19in x 17in)

**Weight**
BWB Flash - 10kg (22.1lbs)
Shipping - 18kg (39.7 lbs)*
*subject to vary based on accessories included

**Optimal range**
Single point calibration
Na 0.1 - 60ppm
K 0.05 - 100ppm
Li 0.05 - 50ppm
Ca 1.0 - 100ppm

Multi Point Calibration (with dilution)
Na 0.1 - 1000ppm
K 0.05 - 1000ppm
Li 0.05 - 1000ppm
Ca 1.0 - 1000ppm

**Reproducibility**
<1% Coefficient of variability for 20 consecutive samples over ten minutes at concentrations of 100ppm or less. (After instrument stabilisation).

**Specificity**
Na/K/Li = <1% to each other when equal in concentration at <100ppm

**Limit of detection (LOD) and limit of quantification (LOQ)**

| LOD | LOQ |
|---|---|
| Na - 0.03ppm | Na - 0.1ppm |
| K - 0.02ppm | K - 0.05ppm |
| Li - 0.02ppm | Li - 0.05ppm |
| Ca - 0.3ppm | Ca - 1ppm |

**Time to stability**
Less than 15 seconds after sample is introduced into the flame

**Ions measured**
Simultaneous measurement of model specific elements

**Interfaces**
USB connectivity for supplied PC software
.csv and .pdf generated reports and files via FP-PC software

**Recommended minimum warm up time based on ambient temperature**
21ºC - 25 minutes

**Power requirements**
100V - 250V AC at 50 or 60Hz automatically selecting

**Fuel requirement***
Propane, Butane or Natural Gas regulated to 19Bar. Flow rate of 0.4l/min
*we recommend either Propane or Butane for optimum results

**Readout**
5″ colour capacitive touch screen display

## + WHAT'S IN THE BOX

- Power lead to suit region
- Gas hose
- Aspiration kit
- Manuals covering all aspects of the Flash FP

- Quick start guides
- Warranty registration form
- Certificates of analysis for all provided fluids
- Material safety data sheets for all provided fluids
- The FP-PC software installation USB

- 150ml of BWB recommended cleaning solution
- 150ml calibration fluids for all 5 elements at 10,000ppm
- 100ml conical flask with screw lid
- 100 disposable sample cups
- 1L of de-Ionised water

- 2m of waste tube
- 10 x 10ml pipettes
- 10 x 1ml pipettes

Proudly Engineered and Manufactured in England

## www.bwbtech.com

Manufactured in Newbury, County of Berkshire, England.
Registered office: BWB Technologies Ltd Unit 7, The Galloway Centre, Hambridge Lane, Newbury, RG14 5TL UK

# Flash Models

The BWB Flash is the first touchscreen Flame Photometer available in 7 models to suit a wide range of applications and budgets, only pay for the elements you're interested in.

Common features include:

- 10 Point calibration curve

- Internal results storage

- Internal compressor and regulator

- .PDF and .CSV report generation

- IQ OQ PQ possible

# Flash Models

**FL-2**  Includes analysis of Sodium and Potassium

**FL-3**  Includes analysis of Sodium, Potassium and Lithium

**FL-4**  Includes analysis of Sodium, Potassium, Lithium and Calcium

**FL-C**  Includes analysis of Calcium

**FL-K**  Includes analysis of Potassium

**FL-L**  Includes analysis of Lithium

**FL-N**  Includes analysis of Sodium

# FP-PC and BWB Drive

## FP-PC app

The BWB flame photometer has been configured to easily satisfy the most sophisticated IT requirements. The FP-PC app provides a useful interface to the BWB Flame Photometer (FP) facilitating the following operations:

• Normal calibration Report production
• Logging of streaming data for continuous on-line applications. (A 4-20 mA signal can also be output proportional to a calibrated channel on the FP).
• Extraction of data from the flame photometer when operated in automatic or semi-automatic mode with or without auto-sampler / auto-diluter known as Automatic Fluid Handling System (AFHS)

Calibration manipulation including:
1. Upload from / download to the FP
2. Storage / retrieval of calibrations using the PC or system hard drive

These functions are provided by the Welcome, Calibrate, Report, Logging, AFHS tabs together with one more (XP-Cal or BIO-Cal) that is dependent on the mode that the FP is being operated in.

The FP-PC app, included with every purchase, has been written with GLP compliance in mind and facilitates the creation of data and reports in PDF format.

## BWB drive

Continuing to building on modern technologies, BWB have created an industry leading USB flash drive packed full of features and resources designed to aide your daily analysis and BWB experience. Exclusively for BWB customers, this self-contained resource includes:

• Tutorial videos in 10 languages
• PC and Mac compatibility
• FP-PC app installation package (PC only)
• Links to BWB's growing online video library (internet connection required)
• Manuals, guides, warranty information and registration PDF
• A list of international support and distributor contact details
• 13 GB of free space for you to use as you please!

This wealth of information is provided in a beautifully designed BWB branded USB memory stick, which includes a built in flash light!

## www.bwbtech.com

The constantly evolving www.bwbtech.com maintains the companies striking bold colours and clean lines ensuring a crisp and easy to use interface packed full of new and exciting resources. With weekly updates the BWB website is at the forefront of the industry when it comes to education and resourcefulness, among many features it includes:

• FAQs
• FP Practical Applications
• User guides and reference materials
• Product specs and technical documents
• A vast video support library
• Support documents
• Local distributor lists
• Tech Support and Sales
• Support contact information

# IQ OQ PQ Certification

## IQ OQ PQ is a unique validation and certification program from BWB.

The programme has been specially created to ensure the end user has the technical knowledge required to install and initialise their BWB Flame Photometer and the technical know-how and confidence to operate any of our 2015 and onwards range of flame photometers correctly and efficiently on a daily basis.

### IQ - Installation Qualification
The installation qualification covers in detail the key steps required to correctly set up the BWB range of photometers and Auto Fluid Handling System. IQ stages include: maintenance and service plans, the installation environment and health and safety requirements.

### OQ - Operation Qualification
The operation qualification covers the steps required to ensure that the BWB flame photometer and AFHS are operating correctly.

The user will undertake a series of hardware checks and test readings, providing the results to BWB for analysis.

### PQ - Performance Qualification
The performance qualification has been designed to ensure that the instruments perform to the original factory specifications.

Once the IQ and OQ sections have been completed, the user runs a sample manually or using AFHS with the solutions, prints out the results and sends to BWB for analysis.

After completion of the qualification and confirmation from BWB, a signed certificate will be issued to the user.

IQ OQ PQ is a unique and effective program built to ensure technical ability, confidence and peace of mind for all users of the BWB 2015 and onwards Series of Flame Photometers and Auto Fluid Handling Systems.

To find more about IQ OQ PQ get in touch at info@bwbtech.com

**BWB** Technologies

# Testimonials

### Alvaro Apéstegui, Ph.D., Laboratorios Labiclin, Costa Rica  **BWB BIO**

"I have been working with ion selective instruments for a while, but after numerous errors with the lipemic samples, and the high running and maintenance costs associated with the instrument I started looking for a new flame photometer. I needed an instrument that gave me good precision, repeatability and an instrument that is viewed as the gold standard for ions such as sodium, potassium and lithium.

I have analysed many instruments but they always had something that was not adequate for my needs. I decided to go for a BWB BIO because it had very good construction and offered up to five different ions with calibration curves of up to fifteen points.

I have had the instrument for almost a year and must say that it is here to stay because of its sturdy construction, really fantastic electronics and most importantly, it will not allow you to make mistakes. Being able to actually see the stability of the readings and having calibrations that are very stable is comforting.

The communication with the people from BWB Technologies is fluent and professional. I have never had a question unanswered and responses normally come in less that 12 hour which says a lot since I am in Costa Rica and they are in England!.

I strongly recommend this instrument, and now that it can have automated sampling, makes it even easier and equals the automatic capabilities of the ion selective instruments."

### Gregory Bathfield, Electrical & Control Specialists Ltd, Mauritius  **BWB SUGAR**

"For the sugar industry, the flame photometer is used to measure Potassium which is directly related to sugar. The flame photometer is thus used to detect sugar in condensate return to the boiler. The BWB photometer is more user friendly and easier to use than others we came across. It is really good value for money."

### Wolfgang Glock, THG-Glock Instruments, Germany  **BWB XP**

"My experience I have made with the BWB-XP Flame Photometer is, that it is easy to install, easy to handle, gives accurate measurements and with the software the operator has a better summary of the work he has done in the Lab. The excellent service of BWB- Technologies and the excellent performance of the instrument makes the BWB- XP Flame Photometer the "best Flame Photometer which is on the market". At the moment no competitor can beat this instrument in performance and price."

### Richard Griffiths, Fujifilm Imaging Colorants Ltd, England  **BWB XP**

"We are very happy so far with the purchase of our BWB-XP flame photometer. We are using the unit for a colours application and had upgraded from a older Sherwood model. I carry out 5 point calibrations on each ion and these calibrations appear to hold from first thing in the morning until the end of the day. The BWB-XP produces accurate values and the ability to measure 5 elements simultaneously is less time consuming than the older instrument and has, on occasion, flagged up the presence of ions which we were not expecting to see and may not have been looking for on the older instrument."

**DELIGHTED WITH YOUR BWB FLAME EMISSION SPECTROMETER?  EMAIL US YOUR TESTIMONIAL AND WE WILL HAPPILY RESPOND WITH 5 BWB USB FLASH DRIVES!  A GREAT KEY RING HOLDER, STORAGE SPACE AND TORCH FOR THE ENTIRE FAMILY!**

**BWB** *Technologies*

# Distributors

We have a global network of first class distributors.
Visit our website, www.bwbtech.com for full details.

**BWB** Technologies

Proudly Engineered
and Manufactured
in England