

## 250:2 Boro 3. 500ml = 0.21 250ml 1950m 250ml

# BLAUBRAND<sup>®</sup> Volumetric instruments

for exact analyses

# BRAND. For lab. For life.®

- + Technical perfection for the most precise measurement results
- + Long-lasting quality, made in Germany
- + A step ahead in skill and service



# Reliability for your analyses – BLAUBRAND<sup>®</sup> volumetric instruments

BLAUBRAND<sup>®</sup> volumetric instruments meet increasing quality demands for transmitting liquids (volumetric and graduated pipettes), producing standardized samples or dilution series (volumetric flasks, graduated and mixing cylinders) or titrating/ analyzing samples (burettes).

#### Long service life

Before calibration, thermal stress must be removed from the blank glassware. After calibration, specially developed quality printing inks are fired into the materials at approx. 500° C. This makes BLAUBRAND® volumetric instruments especially robust, so that they provide a long service life. In addition, this process ensures that BLAUBRAND® volumetric instruments can be heated up to 250° C in a drying cabinet or sterilizer without causing a permanent change in volume.

#### Adjustment and marking

Every glass volumetric instrument is individually calibrated. For measuring instruments with scales, such as graduated pipettes, burettes and graduated cylinders, flexible screen stencils are used. These stencils can be stretched to match the calibration marks accurately, so that the measuring precision is maintained for all intermediate volumes.

Computer-controlled systems guarantee the best possible precision for fully automated production processes.

#### Error limits | Quality management

BRAND<sup>®</sup> manufactures glass volumetric instruments in accordance with current DIN EN ISO standards. Specified error limits are observed with at least 99.6% reliability (AQL <= 0,4). BRAND confirms this by including batch, individual, or DAkkS certificates, showing that our products frequently perform far better than specified error limits.

#### **Reference temperature**

The reference temperature 20°C applies to our volumetric instruments which are produced according to DIN EN ISO standards. If a volumetric instrument calibrated at 20° C is used at 27° C, the volume expansion of the material will lead to an additional deviation in the measurement, which at 0.007% (borosilicate glass 3.3) or 0.02% (soda-lime glass) are much smaller than the error limit for the volumetric instrument. In practical application, therefore, the reference temperature is only of minor importance. However, if an adjustment or calibration is carried out at a different temperature, the measured values must be corrected accordingly (see DIN EN ISO 4787).

- + Adjustments carried out using computercontrolled production facilities
- + Individually adjusted volumetric instruments, highest precision even for partial volumes
- + AQL ≤ 0.4, i.e. the error limits are met with a reliability of at least 99.6 %
- + Long service life through the use of robust blanks and high quality printing inks
- No permanent volume changes after heating, up to 250 °C
- + Delivery incl. lot certificate, optional with individual certificate or DAkkS calibration certificate available



# Advantages of BLAUBRAND<sup>®</sup> volumetric instruments

At BRAND you will find the right volumetric instrument for your work in the laboratory. For test equipment monitoring, BRAND offers batch certificates, individual certificates, USP certificates or DAkkS calibration certificates. Learn more about our glass instruments here.





Bulb pipettes



Graduated pipettes





BEAND 150 648

Graduated cylinders

Burettes and automatic burettes

# Class A/AS volumetric instruments with certificate

#### One batch certificate per packing unit!

All reusable BLAUBRAND<sup>®</sup> volumetric instruments are supplied with one batch certificate per packing unit of the manufacturer. On request, they are also available with an individual certificate, USP individual certificate or DAkkS calibration certificate.

Qualitătszertifikat Certificate of Performance   Certificat de qualité   Certificado de calidad	Messkolben   Volumetric flask Fiole jaugée   Matraz aforado BLAUBRAND <sup>®</sup> ETERNA	
Volumenmessgeräte Volumetric Instruments   Appareilis de volumétrice   Materiel volumétrico	DIN EN ISO 1042, 100 ml, 14/23 Klasse A   class A   class A   clase A <b>100 ml ± 0,10 ml (DIN EN ISO 1042)</b> Nerrodumen ± Fridergrenze   Kominal volume ± error limi Volume nominal ± limit derrur   Volume nominal ± limit	
Chargenprüfung   Batch control   Contrôle du lot   Control del lote	36849, 14 DE-M 23	
Diese Endprüfwerte sind bezogen auf das jeweilige Prüfvolumen bei 20 °C. Die Prüfung proligte gemäß DIN EN ISO 4787:2021, Die verwendeten Normale sind an die Normale der PTB (Physikalisch-Technische Bundesanstalt) angeschlossen. Fehlergrenzen und	BestNr., Chargen-Nr. [ Cat. No., Batch No. REF., Número de lote   REF., Numéro de lot Prúlvolumen   Test volume Volume de contrôle   Volumes de control *	100 %
gemessene Werte des Produkts können der nachfolgenden Seite entnommen werden. Fhese final test values refer to the respective tested volume at 20 °C. The test was effected	Mittebwert   Mean	100,000 ml
according to DIN EN ISO 4787-2021. The used standards are connected with the standards of the PTB (German Federal institute of Physics and Metrology). Error limits and measured values of the instrument are listed on the following page.	Moyenne   Valor medio Standardabweichung   Standard deviation Déviation standard   Desviación estándar	0,011 mi
Ces valeurs finales se référent au volume contrôle respective à 20 °C. Le test a été effectué selon DIN EN ISO 4787:2021. Les étalons utilisés sont liés aux étalons du PTB (Institut éderal Physico-Technique Allemand), Limites d'erreur et valeurs mesurées de l'appareil se trouvent sur la page suivante.	* Pröfvolumen in % des Nennvolumens   Teitted volume in Volume contrôle en % de volume nominal   Volumen contr Prüfmittel   Testing devices Instruments de contrôle   Instrumentos de	olado en % de volumen nominal
Estos valores de control final se refieren al volumen controlado correspondiente a 20 °C. El control se efectuó de acuerdo con DIN EN ISO 4787:2021, Los patrones utilizados son	Waage   Balance   Balance   Balanza	Nr. 300400-26, 220g/20µg
igados a los patrones del PTB (Organismo oficial alemán de calibrado y standards).	Gewichte   Weights   Poids   Pesos	Nr. 800033-20, 100g/E2
ímites de error y valores medidos del aparato véase la página siguiente.	Thermometer   Thermometer   Thermomètre   Termómetro	Nr. 600029-16, 10-30°C / 0,01K
BRAND GMBH + CO KG   Otto-Schott Str. 25 71877 Wertheim   Germany BRAND, For Lab., For Life.	2023-11-17 Max Mustermann XXXXXII JAMA	w~ 🙆



#### Certificates, accessories and spare parts online

Find quality certificates, technical documentation and accessories for your BLAUBRAND<sup>®</sup> volumetric instruments in our free online service MyProduct. More information: https://www.brand.de/myproduct

All individual and batch certificates are archived for at least 10 years, and are available for download at: www.brand.de.

#### Test equipment monitoring

The testing of volumetric instruments is done gravimetrically according to DIN EN ISO 4787. So that calibration can be done rapidly and easily, while minimizing sources of error, BRAND provides detailed testing instructions (SOP) for every type of volumetric instrument, free of charge.



# DE-M

All BLAUBRAND® volumetric instruments kept and used for measurements in legally regulated applications are marked DE-M. The manufacturer BRAND uses this mark to certify the conformity of the instruments with the German Measurement and Calibration Regulation (replaces the previous Calibration Regulation).

BRAND lists all the test equipment used in each lot and individual certificate.

#### **Batch certificate**

The mean value and standard deviation for the batch and date of issuance are documented on the certificate (batch number: production year/batch).

#### Individual certificate

The measured volume, measurement uncertainty, and date of issuance are documented on the certificate (unique serial number: production year/production month/device serial number.

#### DAkkS calibration certificate

This certificate is issued by the DAkkSaccredited calibration laboratory at BRAND. Due to the extensive international cooperation of the DAkkS (formerly DKD) German accreditation body (EA Agreement, ILAC-MRA), the DAkkS calibration certificate is internationally recognized. Both the instrument and the certificate show an individual serial number and the laboratory's registration number as well as the year and month of issue.

# Reliable results: ISO and USP

Many measuring instruments are subject to certain regulations, e.g. laws, guidelines or industry standards. Among others, these regulations define the standards of use, the use of certain measuring instruments for certain applications or specify the design and/or the error limits. Therefor, these regulations are the basis for reliable and reproducible results. For manufacturers of pharmaceutical products for the European market, the EP (European Pharmacopeia) prescribes the use of glass volumetric instruments in accordance with the current DIN EN ISO standards, which are frequently only designated as ISO (International Organization for Standardization). Manufacturers of pharmaceutical products for the American market are accredited and audited by the FDA (United States Food and Drug Administration) under the rules of the USP (United States Pharmacopeia).

Both, the USP and the EP are applicable worldwide. Their respective requirements, however, are not identical. Therefore,

Qualitätszertifikat Certificate of Performance   Certificat de qualité   Certificado de calidad	Messkolben   Volumetric flask Fiole jaugée   Matraz aforado BLAUBRAND® USP	<b>DE-M</b> 23
Volumenmessgeräte Volumetric Instruments   Appareils de volumétric   Materiel volumétrico	DIN EN ISO 1042, 100 ml, 14/23 Klasse A   class A   class A   clase A 100 ml ± 0,08 ml (USP / ASTM E 288) Itennolumes I feldergenze   Norrinal volume a error limit Volume normal & limit of come   Volumes normal & limit of come	error
Einzelprüfung   Individual control   Contrôle individuel   Control individual Diese Endprüfwerte sind bezogen auf das jeweilige Prüfvolumen bei 20 °C. Die Prüfung	956979, 23U12246 BustN., Serien N.: [Cat. No., Serial No. REF., Numéro de série   REF., Número de serie	
erfolgte gemäß DIN EN ISO 4787:2021. Die verwendeten Normale sind an die Normale der PTB (Physikalisch-Technische Bundesanstalt) angeschlossen. Fehlergrenzen und	Prüfvolumen   Yest volume Volume de contrôle   Volumen de control *	100%
gemessene Werte des Produkts können der nachfolgenden Seite entnommen werden. These final test values refer to the respective tested volume at 20 °C. The test was effected	Gemessenes Volumen   Measured volume Volume mesuré   Volumen medido	100,004 mi
according to DIN EN ISO 4787:2021. The used standards are connected with the standards of the PTB (German Federal Institute of Physics and Metrology). Error limits and measured values of the instrument are listed on the followine pare.	Messunsicherheit   Measuring uncertainty Tolérance de mesure   Tolerancia de medición	0,027 mi
states or une musi unima anté saeco com no domine, paga- ce salvaurs finaise a ser les defenter au voltance contidire respective à 20°C. Le test a été effectué solen DN NS 0.47872021. Les étaines utilisés sont lés aux étaines du PIE (institut étéried PNps):on E-cheruise Allemand, Linnie d'erreur et values messives de l'appareil set touvent su la page suivaite.	<ul> <li>Pröfvolamen in % des Nermolumens   Tested valume in % of Volume contrôle en % de valume nominal   Volumen controlat</li> <li>Prüfmittel   Testing devices Instruments de contrôle   Instrumentos de m</li> </ul>	lo en 16 de volumen nominal
El control se efectuó de acuerdo con DIN EN ISO 4787:2021. Los patrones utilizados son	Waage   Balance   Balance   Balanza	Nr. 300400-25, 220g/20µg
ligados a los patrones del PTB (Organismo oficial alemán de calibrado y standards). Límites de error y valores medidos del aparato véase la página siguiente.	Gewichte   Weights   Poids   Pesos	Nr. 800033-17, 100g/E2
anne a cree y march near y ac aparais start a pagna squatna.	Thermometer   Thermometer   Thermomètre   Termómetro	Nr. 600029-46, 10-30°C / 8,81K
BBAND GHEN + CO KG   Otto-Schott-Str.25 97877 Werthelm   Germany BBAND, For Lab. For Iffe: BRAND.	2023-09-28 Мах Mustermann зөөвөр цаят	~ Ø

USP Certificate of Performance

measuring instruments such as a 100 ml volumetric flask may exist in two variants (ISO and USP) with different error limits.

# Identification of BLAUBRAND® volumetric instruments

For traceability, the essential information is printed on the volumetric instruments. Requirements from the regulatory area (e.g. standards, pharmacopeia and quality management) are thus fulfilled.



# **Ordering information**

## **1** Volumetric flasks

#### Volumetric flasks, BLAUBRAND®, class A, DE-M

Boro 3.3. DIN EN ISO 1042. Calibrated to contain (TC, In).

Capacity ml	Description	Closure option	Cat. No.
5 - 10000	with ISO batch certificate	PP/PE stopper	37233 - 37293
	with ISO individual certificate	PP/PE stopper	937233 - 937293
5 - 5000	with ISO batch certificate	glass stopper	37256 - 37294
	with ISO individual certificate	glass stopper	937256 - 937294
10 - 1000	with ISO batch certificate, beaded rim	without stopper	37045 - 37053
	with ISO individual certificate, beaded rim	without stopper	937045 - 937053
5 - 2000	with USP batch certificate	PP stopper	36938 - 36954
	with USP individual certificate	PP stopper	956938 - 956954
	with USP batch certificate	glass stopper	36968 - 36984
	with USP individual certificate	glass stopper	956968 - 956984



#### Volumetric flasks, BLAUBRAND®, class A, DE-M, amber

Boro 3.3. DIN EN ISO 1042. Calibrated to contain (TC, In).

Capacity	Description	Closure option	Cat. No.
5 - 1000	with ISO batch certificate	PP stopper	37401 - 37413
	with ISO individual certificate	PP stopper	937401 - 937413
	with ISO batch certificate	glass stopper	37438 - 37453
	with ISO individual certificate	glass stopper	937438 - 937453
5 - 1000	with USP batch certificate	PP stopper	37481 - 37491
	with USP individual certificate	PP stopper	957481 - 957491
	with USP batch certificate	glass stopper	37461 - 37471
	with USP individual certificate	glass stopper	957461 - 957471





\_\_\_\_

\_

#### Volumetric flasks, BLAUBRAND® ETERNA, class A, DE-M

Boro 3.3. To DIN EN ISO 1042. Calibrated to contain (TC, In).

Capacity ml	Description	Closure option	Cat. No.
5 - 2000	with ISO batch certificate	PP stopper	36838 - 36854
	with ISO individual certificate	PP stopper	936838 - 936854
	with USP individual certificate	PP stopper	956841 - 956854

#### Volumetric flasks, BLAUBRAND®, class A, DE-M, PURprotect

Boro 3.3. DIN EN ISO 1042. Calibrated to contain (TC, In).

Capacity ml	Description	Closure option	Cat. No.
50 - 1000	with ISO batch certificate	PP stopper	36548 - 36553



500ml

#### Volumetric flasks, BLAUBRAND®, class A, DE-M, trapezoidal

Boro 3.3. DIN EN ISO 1042. Calibrated to contain (TC, In).

Capacity ml	Description	Closure option	Cat. No.
1 - 50	with ISO batch certificate	PP stopper	36401 - 36408
	with ISO individual certificate	PP stopper	936401 - 936408

## 2 Graduated cylinders

**Graduated cylinders, tall form, BLAUBRAND®, class A, DE-M** Boro 3.3. To DIN EN ISO 4788. Calibrated to contain (TC, In). With spout and hexagonal glass base.

Capacity ml	Description	Cat. No.
5 - 2000	with ISO batch certificate	32105 - 32164
	with USP batch certificate	32805 - 32864



#### Graduated cylinders, tall form, BLAUBRAND® ETERNA, class A, DE-M

Boro 3.3. To DIN EN ISO 4788. Calibrated to contain (TC, In). With spout and hexagonal glass base.

Capacity ml	Description	Cat. No.
5 - 2000	with ISO batch certificate	32705 - 32764



#### Mixing cylinders, tall form, class A, DE-M

Boro 3.3. DIN EN ISO 4788. Calibrated to contain (TC, In).

Capacity ml	Description	Cat. No.
10 - 1000	with ISO batch certificate	32408 - 32462



## 3 Bulb pipettes

#### Bulb pipettes, BLAUBRAND®, class AS, DE-M

AR-GLAS<sup>®</sup>. DIN EN ISO 648. Calibrated to deliver (TD, Ex). Waiting time 5 seconds.

Capacity ml	Description	Cat. No.
0,5 - 100	1 mark, with ISO batch certificate	29701 - 29719
	1 mark, with USP batch certificate	30601 - 30619
0,5 - 50	2 marks, with USP batch certificate	29721 - 29738



#### Bulb pipettes, BLAUBRAND® ETERNA, class AS, DE-M

AR-GLAS<sup>®</sup>. DIN EN ISO 648. Calibrated to deliver (TD, Ex). Waiting time 5 seconds.

Capacity ml	Description	Cat. No.
1 - 50	with ISO batch certificate	30502 - 30518



## 4 Graduated pipettes

#### Graduated pipettes, BLAUBRAND®, DE-M

AR-GLAS<sup>®</sup>. DIN EN ISO 835. Waiting time 5 seconds.

Ca	pacity ml	Description	Cat. No.
0,5 -	25	Type 1, class AS, with ISO batch certificate	27721 - 27731
0,5 -	50	Type 2, class AS, with ISO batch certificate	27816 - 27829
		Type 3, class AS, with ISO batch certificate	27705 - 27716
1 -	10	Type 2, class AS, with USP batch certificate	27506 - 27513
0,1 -	0,2	Type Einguss, class A, with ISO batch certificate	27702 - 27704

#### Graduated pipettes, BLAUBRAND® ETERNA, class AS, DE-M

AR-GLAS<sup>®</sup>. DIN EN ISO 835. Calibrated to deliver (TD, Ex). Waiting time 5 seconds.

Сар	acity ml	Description	Cat. No.
0,5 -	25	Type 3, with ISO batch certificate	27316/27319 28405 - 28415

## **5** Burettes

\_\_\_\_

#### Burettes, BLAUBRAND®, class AS, DE-M

Boro 3.3. To DIN EN ISO 385. Calibrated to deliver (TD, Ex), PTFE stopcock.

Capacity ml	Description	Cat. No.
10 - 50	lateral valve cock, blue Schellbach stripe	13844 - 13848
	straight valve cock, blue Schellbach stripe	12484 - 12488

#### Micro-burettes (Bang), BLAUBRAND®, class AS, DE-M

Boro 3.3. To DIN EN ISO 385. Calibrated to deliver (TD, Ex).

Capacity ml	Description	Cat. No.
2 - 10	lateral valve cock, blue Schellbach stripe, with ISO batch certificate	24596 - 24600
	straight valve cock, blue Schellbach stripe, with ISO batch certificate	24265 - 24269









#### Compact-Burettes, BLAUBRAND<sup>®</sup>, class AS, DE-M

Boro 3.3, To DIN EN ISO 385. Calibrated to deliver (TD, Ex).

Capacity ml	Description	Cat. No.
10 - 50	blue Schellbach stripe, with ISO batch certificate	13913 - 13918
	white graduated, amber, with ISO batch certificate	13963 - 13968

# 6 Compact-Automatic burettes

#### Compact-Automatic burettes, BLAUBRAND<sup>®</sup>, class AS, DE-M DIN EN ISO 385. Calibrated to deliver (TD, Ex).

Capacity ml	Description	Cat. No.
10 - 50	blue Schellbach stripe, with ISO batch certificate	23923 - 23925
	with PE-bottle, blue Schellbach stripe, with ISO batch certificate	23819 - 23821
	white graduated, amber, with ISO batch certificate	23939 - 23941
	with PE-bottle, white graduated, amber, with ISO batch certificate	23870 - 23872

#### Automatic burettes Pellet pattern, BLAUBRAND®, class AS, DE-M

DIN EN ISO 385. Boro 3.3, calibrated to deliver (TD, Ex).

Capacity ml	Description	Cat. No.
10 - 50	with intermediate stopcock, blue Schellbach stripe	22761 - 22763
	without intermediate stopcock, blue Schellbach stripe	22521 - 22523



#### BRAND GMBH + CO KG P.O. Box 1155 | 97861 Wertheim | Germany T +49 9342 808 0 | F +49 9342 808 98000 | info@brand.de | www.brand.de

BRAND. For lab. For life.®

BLAUBRAND<sup>®</sup>, BRAND<sup>®</sup>, BRAND. For lab. For life.<sup>®</sup> as well as the BRAND figurative mark are registered trademarks or trademarks of BRAND GMBH + CO KG, Germany. The BRANDGROUP figurative mark is registered trademark or trademark of Brand Group SE & Co. KG, Germany. All other trademarks mentioned or depicted here are the property of the respective owners.

Our technical literature is intended to inform and advise our customers. However, the validity of general empirical values, and of results obtained under test conditions, for specific applications depends on many factors beyond our control. Please appreciate, therefore, that no claims can be derived from our advice. The user is responsible for checking the appropriateness of the product for any particular application.

California Residents: For more information concerning California Proposition 65, please refer to www.brand.de/calprop65.

Subject to technical modification without notice. Errors excepted.



Find accessories and replacement parts, user manuals, test instructions (SOP) and product videos at shop.brand.de



Further information on products and applications can be found on our YouTube channel: mylabBRAND





BRAND (Shanghai) Trading Co., Ltd. Shanghai, China

T +86 21 6422 2318 info@brand.com.cn china.brand.com.cn BRAND Scientific Equipment Pvt. Ltd. Mumbai, India

T +91 22 42957790 customersupport@brand.co.in www.brand.co.in BRANDTECH<sup>®</sup> Scientific, Inc. Essex, CT. United States of America

T +1 860 767 2562 info@brandtech.com www.brandtech.com

