

VISIBLE PRECISION

DURAN® volumetric flasks –
now with printed graduation mark



ДИА•М
современная лаборатория

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**DURAN
WHEATON
KIMBLE**

Excellence in your hands

DURAN® VOLUMETRIC FLASKS

Achieving precision through quality

Volume measurement – a routine laboratory procedure. All the more important is the assurance of quality in the associated instrumentation over the long term, from volumetric flasks to stoppers. From one day to the next, with each analysis.

DURAN® volumetric instruments have the same attributes as DURAN® laboratory glassware: They are robust, virtually inert and exceptionally resistant to high temperatures. Outstanding corrosion protection also guarantees they are particularly cost effective.

End-to-end production from a single source

Stringent specifications apply for the selection of raw materials and mixture preparation for the borosilicate glass 3.3. In addition, because DURAN® laboratory glassware is manufactured exclusively in-house, high quality is guaranteed. This applies to every manufacturing phase – from glass melting through to calibration. The result: outstanding precision during volumetric measurement.

SCREEN PRINT LABEL FOR DURAN® VOLUMETRIC FLASKS

Volumetric flask, accuracy class A, USP <31> conform



Volumetric flask, accuracy class A, with individual certificate



Volumetric flask, accuracy class A, with batch certificate



USP	United States Pharmacopoeia – the product satisfies the requirements specified in USP <31>
CERT	Certificated
88.88	Batch number, e.g. 15.01
100	Nominal volume in mL
±0.08ml	Accuracy tolerance – the deviation of the nominal volume must be no greater than this value which is specified in standards
In 20°C	Reference temperature – the temperature at which a volumetric instrument must achieve the nominal volume (20°C) stated on it
Made in UK	Country of origin
A	Accuracy class – denotes the accuracy limit
NS 14/23	Standard taper joint size
ISO 1042	Standard designation
DE-M yy	Conformity mark – verifies compliance with the requirements of the German weights and measures regulation and applicable standards
AAA-0001	Individual number (laser-etched onto the base)
DD.MM.YY	Production date (laser-etched onto the base)

FEATURES & BENEFITS:

- Achieves precision due to better visibility of the **printed graduation mark**
- Print is highly resistant to chemicals
- Comply with the requirements of **ISO 1042**
- With **new PE stopper** – can be ordered separately
- Well-known **DURAN® borosilicate glass 3.3** quality due to high internal raw material requirements
- Increased service life and cost-effectiveness
- Retractable
- Auditable



OVERVIEW OF CERTIFICATES

Conformity mark DE-M

Volumetric instruments that comply with the requirements of applicable standards (e.g. the German weights and measures regulation) are labelled accordingly with “DE-M”. The “DE-M 18” mark is made up of the elements DE (which stands for “Deutschland”), M (which stands for “Metrologie” (metrology)), and the year number 18 (2018, the year in which the measuring instrument was labelled).



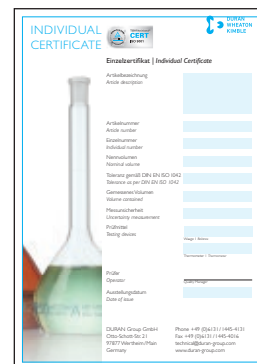
Batch certificate

Volumetric flasks and measuring and mixing cylinders with a batch number and accuracy class A are supplied with a batch certificate. This certificate documents the mean value obtained from measuring the batch in question, the standard deviation and the day of issue. The batch certificates can also be retrieved online. The batch number consists of four digits, e.g.: The first two numbers specify the production year, and the following two numbers specify the batch.



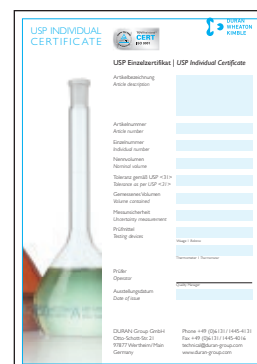
Individual certificate

Volumetric flasks which are numbered individually, are supplied with an individual certificate. The individual number is permanently laser-etched onto the base of the volumetric flask and is entered on the corresponding certificate. The volume measured for the corresponding volumetric flask, the measurement uncertainty and the day of issue are documented on this certificate. The individual number is a consecutive number and comprises three letters and a four digit number, for example: AAA-0001.



USP individual certificate

The volumetric flasks are labelled with an individual number. This is permanently laser-etched onto the base of the volumetric flask and is entered on the corresponding certificate. The accuracy limits for USP <31> compliant volumetric flasks are stricter than flasks conforming to ISO 1042 and therefore satisfy the requirements of the United States Pharmacopoeia (USP). The volume measured for the corresponding volumetric flask, the measurement uncertainty and the day of issue are documented on this certificate.




UKAS certificate

Our DURAN® volumetric gauges already meet the highest standards of accuracy, yet DURAN® now also provides a new range of volumetric gauges and graduated cylinders with a UKAS single certificate. This new volumetric instrument product line is tested and calibrated to the requirements of United Kingdom Accreditation Services (UKAS) and complies with ISO 17025, a standard for global comparability of test and calibration results.



DURAN® RANGE OF VOLUMETRIC FLASKS

Product range		DURAN® volumetric flasks, clear			
Accuracy class		Class A	Class A	Class A	Class A
Borosilicate glass 3.3 volumetric flasks body					
Certificate*		Batch certificate	Individual certificate	Individual certificate, USP <31> conformity	UKAS certificate
Certificate of conformity		yes	yes	yes	yes
Maximum recommended temperature without affecting accuracy		180 °C	180 °C	180 °C	180 °C
Temperature resistance PE Stopper**		-40 °C to +80 °C	-40 °C to +80 °C	-40 °C to +80 °C	-40 °C to +80 °C
Print color		Blue	Blue	Blue	Blue
mL	Stopper size	Ordering No.	Ordering No.	Ordering No.	Ordering No.
1 ²	7 / 16	246780159	246790151	–	–
2 ²	7 / 16	246780253	246790254	–	–
5	7 / 16	–	–	–	246750756
5 W ¹	10 / 19	246780956	246790957	246710958	–
10	7 / 16	–	–	–	246750859
10 W ¹	10 / 19	246781052	246791053	246711054	–
20	10 / 19	246781258	246791259	–	246751255
25	10 / 19	246781455	246791456	246711457	246751452
50	12 / 21	246781755	246791756	246711757	246751752
100	12 / 21	246782451	246792452	–	246752457
100	14 / 23	246782554	246792555	246712556	–
200	14 / 23	246783259	246793251	246713252	246753256
250	14 / 23	246783653	246793654	246713655	246753659
500	19 / 26	246784452	246794453	246714454	246754458
1000	24 / 29	246785457	246795458	246715459	246755454
1000 W ¹	29 / 32	246785551	246795552	–	–
2000	29 / 32	246786359	246796351	246716352	246756356
5000 ²	34 / 35	246787355	246797356	–	–

* Batch certificates also available online

W¹ = Wide neck

² = Etched graduation mark

** Chemical resistance of Polyethylene at 20°C

Alcohols, aliphatic	+	Hydrocarbons, aromatic	–
Aldehydes	+	Hydrocarbons, halogenated	–
Alkaline solutions	++	Ketones	+
Esters	+	Acids, dilute or weak	+
Ethers	–	Acids, conc. or strong	+
Hydrocarbons, aliphatic	–	Acids, oxidising	–

++ very good resistance + good resistance – low resistance

	DURAN® volumetric flasks, amber			DURAN® Stopper, PE	
Class B	Class A	Class A	Class A		
					
–	Batch certificate	Individual certificate	UKAS certificate	–	
no	yes	yes	yes	–	
180 °C	180 °C	180 °C	180 °C	–	
-40 °C to +80 °C	-40 °C to +80 °C	-40 °C to +80 °C	-40 °C to +80 °C	-40 °C to + 80 °C	
White	White	White	White	–	
Ordering No.	Ordering No.	Ordering No.	Ordering No.	Color	Ordering No.
–	–	–	–		292050201
–	–	–	–		292050201
–	–	–	246740755		292050201
246700957	246760954	246770955	–		292050304
–	–	–	246740858		292050201
246701053	246761059	246771051	–		292050304
246701259	246761256	246771257	246741254		292050304
246701456	246761453	246771454	246741451		292050304
246701756	246761753	246771754	246741751		292050407
–	246762458	246772459	246742456		292050407
246702555	246762552	246772553	–		292050604
246703251	246763257	246773258	246743255		292050604
246703654	246763651	246773652	246743658		292050604
246704453	246764459	246774451	246744457		292050707
246705458	246765455	246775456	246745453		292050801
–	–	–	–		292050904
246706351	246766357	246776358	246746355		292050904
246707356	–	–	–		292051103



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