

Poulten & Graf

SUPERIOR LABORATORY PRODUCTS



Company Information

Poulsen & Graf Ltd.

Peak Works 1 Alfreds Way
Barking Essex IG11 0AS, UK
United Kingdom

VAT-No. GB749862867

Telephone

+44 (0)20 8594 4256

Fax

+44 (0)20 8594 8419

E-Mail:

VOLAC@poulsen-graf.com

Website:

www.poulsen-graf.co.uk

Poulsen & Graf GmbH

Karl-Carstens-Str. 10, D-97877 Wertheim
Postfach 1352, D-97863 Wertheim
Germany

VAT-Nr. DE812843788

Steuer-Nr. 800822274

Telephone

+49 (0)9342 9229 0

Fax

+49 (0)9342 9229 80

E-Mail:

FORTUNA@poulsen-graf.com

Website:

www.poulsen-graf.de



Wertheim, Germany

Company Information

About us

The Poulten & Graf Group was formed, ready for the new Millennium, on 31st December 1999 by the bringing together of two long established family companies, Walter Graf & Co., based in Wertheim, Germany, and John Poulten Limited, based in Barking, United Kingdom. The Group comprises Poulten & Graf Holdings GmbH with its two manufacturing subsidiaries, Poulten & Graf Limited and Poulten & Graf GmbH, both 100% owned by Poulten & Graf Holdings GmbH.

The objective of the new enterprise was to improve the production capabilities of both the former companies and to increase market share throughout Europe and beyond. The Chairmen of the holding company are John Poulten, Claire Poulten and Hans Graf, with Hans Graf as the Managing Director of Poulten & Graf Limited and Poulten & Graf GmbH. Following the merger, production was rationalised and the product range extended to improve the breadth of service available to our customers.



John Poulten

Poulten & Graf Ltd.
Director



Hans Graf

Poulten & Graf GmbH
Poulten & Graf Ltd.
Managing Director



Barking, UK

Company Information



Certificate

Standard **ISO 9001:2008**

Certificate Register No. **09 100 4250**

Certificate Holder **Poulsen & Graf GmbH**
Karl Carstens-Straße 10
D - 51677 Vöhrden

Scope **Production and distribution of liquid handling products,
laboratory equipment and syringes**

Proof has been furnished by means of an audit that the
requirements of ISO 9001:2008 are met.
The due date for all future audits is 31-01-2011 (30 mos)

Validity **The certificate is valid from 2014-03-28 until 2017-01-31.
First certification 1994**

2014-04-01

John Zyl
John Zyl, CEO, NQA
Tel: +44 (0)1235 531100

DAMAS
DAMAS
DAMAS

www.iso.org

TÜVRheinland
Precision Right

Confidence

When you purchase our products you give us your trust. We appreciate this trust and will do our best to supply only high-quality perfect products.

Quality and Accuracy

The **volac** mark comes from the English 'VOLumetric ACcuracy'. **volac** Products are manufactured according to BS EN ISO 9001:2008. Volumetric glassware of class A accuracy is individually tested and printed. For class A an individual number gives a 100 % warranty of accuracy as well as full traceability and a level of reliability unobtainable under any other brand.

FORTUNA® stands for more than 90 years of quality. Certification according to EN ISO 9001:20008 and DIN EN ISO 13485:2003 for medical products proves this claim of high quality and gives the customer a warranty of quality products.

Company Information

Company Development of John Poulten Ltd.

- 1952** Founded in Barking near London. Start of glassware production
- 1977** Extension of production with second production facility
- 1977** Jack Poulten appointed as an honorary Council Member of the British Laboratory Ware Association (now GAMBICA)
- 1983** 'Fit for Work-Award' for the employment of disabled people
- 1999** Dec. 31. merger with Walter Graf & Co.
- 2007** Appointment of John Poulten as Liveryman of 'The Worshipful Company of Glass Sellers of London'



John Henry Poulten
Founder

Company Development of Walter Graf u. Co.

- 1923** Founded July 1st. in Schmiedefeld. First product: syringes
- 1935** Enlargement of product range to include laboratory glassware
- 1950** Family moves to Wertheim (West-Germany)
- 1967** Publication of the first catalogue 'FORTUNA Glass Instruments for Volumetric Analysis'
- 1976** Introduction of FORTUNA® OPTIFIX®
- 1999** December 31. merger with John Poulten Ltd.



Walter Graf
Founder

Poulten & Graf Registered Trademarks

- | | |
|----------------------|---|
| ▪ FORTUNA UNIVERSAL® | ▪  |
| ▪ OPTIFIX® | ▪ FORTUNA® |
| ▪ POLYFIX® | ▪ FORTUNA-OPTIJET® |
| ▪ POLYSTOP® | ▪ FORTUNA OPTIMAT® |
| ▪ UNIFIX® | ▪ FORTUNA OPTIMA® |

FORTUNA® POLYFIX® Dispenser



**101.070 FORTUNA® POLYFIX®
with glass piston**

**101.071 FORTUNA® POLYFIX®
with PTFE-coated piston**

**101.072 FORTUNA® POLYFIX®
with amber glass
cylinder and glass piston**

Due to the fact that PP is suitable for a lot of chemicals, the POLYFIX® dispenser can be used for most liquids.

- visible dispensing procedure
- easy-to-use volume setting system
- valve block made of polypropylene with FIX adapter
- comes with 1 PTFE intake tube, 2 PP adaptors (GL 40 + 45), without bottle
- single pack

	Volumen	grad.	Art.-No.
with glass piston			
- suitable for all chemicals (incl. solvents), that do not attack polypropylene and don't crystallize	2-10 ml	0.5	101.070-38
	10-50 ml	1.0	101.070-48
with coated PTFE-piston			
- suitable for acids and alkaline solutions that do not attack polypropylene	2-10 ml	0.5	101.071-38
	10-50 ml	1.0	101.071-48
with amber glass cylinder and glass piston			
- suitable for all light sensitive liquids that do not attack polypropylene	2-10 ml	0.5	101.072-38
	10-50 ml	1.0	101.072-48

FORTUNA® OPTIFIX® Dispenser

When dispensing liquids, do not compromise - OPTIFIX® bottle top dispensers are ALWAYS the best choice!

Due to our long experience in the production of manual bottle top dispensers, our products are easy to handle, safe to use and precise. They are indispensable in everyday life in the laboratory.

OPTIFIX® BASIC

for dosing of the most common chemicals, acids and crystallizing liquids, with dispensing cylinder made of glass and with PTFE-encased piston

OPTIFIX® SOLVENT

for dispensing of pure organic solvents, with dispensing cylinder and piston made of glass

FORTUNA UNIVERSAL® OPTIFIX® HF

for all liquids that can be handled with the OPTIFIX® dispensers and additionally for hydrofluoric acid (HF), with dispensing cylinder made of PTFE and with solid PTFE-encased piston

OPTIFIX® SAFETY

for dispensing of strong acids and aggressive chemicals (no HF), with dispensing cylinder made of glass and PTFE-encased piston with sealing lip

OPTIFIX® SAFETY S

for dispensing of strong fuming acids and very abrasive liquids (no HF), with safety stopcock and additional safety valve in ventilation tube, with dispensing cylinder made of glass and PTFE-encased piston with sealing lip



FORTUNA® OPTIFIX® Dispenser

Finger Protection Cap

- ergonomic type
- timeless design
- with colour-code-system

Volume Setting System

- fast and easy volume setting
- additional fine adjustment
- for right and left hand use
- easy to read scale

Precision Dispensing Cylinder

- made of glass, dosing procedure visible (except type HF, made of PTFE)
- coated with plastic - protection against breakage
- graduation clear readable

Dispensing Piston

- proven technology
- made of glass, solid PTFE-encased, exception: SOLVENT: not PTFE-encased
- virtually indestructible

Valve Block

- high technology
- optimal function
- 100 % tightness
- no metal springs - no corrosion

FIX Adaptor

- to align the dispenser on a bottle
- made of Polypropylene for BASIC and SOLVENT
- made of PTFE for HF and SAFETY



FORTUNA® OPTIFIX® BASIC Dispenser

OPTIFIX® BASIC

for dosing of the most common chemicals, acids and crystallizing liquids (not suitable for solvents)

- **with certificate**, individually numbered
- manufactured acc. to **DIN EN ISO 9001:2008**
- using **high quality materials**
- with solid PTFE encased **dispensing piston made of glass**
- **dispensing cylinder, made of glass**, visible dispensing process, cylinder is coated with plastic-protection against breakage
- **ergonomic finger protection cap made of PP with volume setting system**
- graduation on the scale is lasered
- **fast and easy volume setting** with additional
- fine adjustment, easy to read scale
- **Valve Block**, high technology leads to optimal function
- **100 % tightness**
- **FIX Adaptor** made of white PP up to 10 ml size, made of solid PP from 30 ml



Bottle Top Dispenser FORTUNA® OPTIFIX® BASIC, with GL 32 thread, comes with 2 PP adaptors 40 + 45, 1 PTFE intake tube, single pack

Volume	grad.	Accuracy	Precision	Art.-No.
0.4 - 2 ml	0.1 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.080-27
1 - 5 ml	0.2 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.080-33
2 - 10 ml	0.5 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.080-38
6 - 30 ml	1.0 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.080-44
10 - 50 ml	1.0 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.080-48
20 - 100 ml	2.0 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.080-51
40 - 200 ml	5.0 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.080-53
60 - 300 ml *	5.0 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.080-56
100 - 500 ml *	5.0 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.080-58

FORTUNA® OPTIFIX® SOLVENT Dispenser



No metal springs in the valves - no corrosion

OPTIFIX® SOLVENT

for dispensing of pure organic solvents

- with certificate, individually numbered
- manufactured acc. to **DIN EN ISO 9001:2008** using **high quality materials**
- with solid **dispensing piston made of glass**
- **dispensing cylinder, made of glass**, visible dispensing process, cylinder is coated with plastic-protection against breakage
- **ergonomic finger protection cap made of PP with volume setting system**
- graduation on the scale is lasered
- fast and easy volume setting with additional fine adjustment, easy to read scale
- **Valve Block**, high technology leads to optimal function and 100 % tightness
- **FIX Adaptor** made of white PP up to 10 ml size, made of solid PP from 30 ml

Bottle Top Dispenser FORTUNA® OPTIFIX® SOLVENT, with GL 32 thread, comes with 2 PP adaptors 40 + 45, 1 PTFE intake tube, single pack

Volume	grad.	Accuracy	Precision	Art.-No.
0.4 - 2 ml	0.1 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.081-27
1 - 5 ml	0.2 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.081-33
2 - 10 ml	0.5 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.081-38
6 - 30 ml	1.0 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.081-44
10 - 50 ml	1.0 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.081-48
20 - 100 ml	2.0 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.081-51
40 - 200 ml	5.0 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.081-53
60 - 300 ml *	5.0 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.081-56
100 - 500 ml *	5.0 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.081-58

FORTUNA UNIVERSAL® OPTIFIX® HF Dispenser

FORTUNA UNIVERSAL® OPTIFIX® HF

for all liquids that can be handled with the OPTIFIX® dispensers
and additionally for hydrofluoric acid (HF), except solvents

- **with certificate**, individually numbered
- manufactured acc. to **DIN EN ISO 9001:2008** using **high quality materials**
- with solid **PTFE encased dispensing piston**
- with **dispensing cylinder made of PTFE**
- **ergonomic finger protection cap made of PP with volume setting system**
- graduation on the scale is **lasered**
- fast and easy volume setting with additional fine adjustment, easy to read scale
- **Valve Block**, high technology leads to optimal function and 100 % tightness



No metal springs in the valves - no corrosion

Bottle Top Dispenser FORTUNA UNIVERSAL® OPTIFIX® HF, with GL 32 thread,
comes with 2 PTFE adaptors 40 + 45, 1 PTFE intake tube, single pack

Volume	grad.	Accuracy	Precision	Art.-No.
1 - 5 ml	0.2 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.106-33
2 - 10 ml	0.5 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.106-38
6 - 30 ml	1.0 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.106-44
10 - 50 ml	1.0 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.106-48

FORTUNA® OPTIFIX® SAFETY Dispenser



OPTIFIX® SAFETY

for dispensing of strong acids and aggressive chemicals (no HF)

- **with certificate**, individually numbered
- manufactured acc. to **DIN EN ISO 9001:2008** using **high quality materials**
- with solid **PTFE-encased dispensing piston with sealing lip**
- **Valve Block**, high technology leads to optimal function and 100 % tightness
- **FIX Adaptor** made of PTFE
- **dispensing cylinder, made of glass**, visible dispensing process, cylinder is coated with plastic-protection against breakage
- **ergonomic finger protection cap made of PP with volume setting system**
- graduation on the scale is lasered
- fast and easy volume setting with additional fine adjustment, easy to read scale

No metal springs in the valves - no corrosion

Bottle Top Dispenser FORTUNA® OPTIFIX® SAFETY, with GL 32 thread, comes with 2 PTFE adaptors 40 + 45, 1 PTFE intake tube, single pack

Volume	grad.	Accuracy	Precision	Art.-No.
0.4 - 2 ml	0.1 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.107-27
1 - 5 ml	0.2 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.107-33
2 - 10 ml	0.5 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.107-38
6 - 30 ml	1.0 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.107-44
10 - 50 ml	1.0 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.107-48
20 - 100 ml	2.0 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.107-51

FORTUNA® OPTIFIX® SAFETY S Dispenser

OPTIFIX® SAFETY S

for dispensing of strong fuming acids and very abrasive liquids (no HF)

- **with certificate**, individually numbered
- manufactured acc. to **DIN EN ISO 9001:2008** using **high quality materials**
- **with safety stopcock**
- with solid **PTFE-encased dispensing piston with sealing lip**
- **dispensing cylinder, made of glass**, visible dispensing process, cylinder is coated with plastic-protection against breakage
- **ergonomic finger protection cap made of PP with volume setting system**
- graduation on the scale is lasered
- fast and easy volume setting with additional fine adjustment, easy to read scale
- **Valve Block**, high technology leads to optimal function
- 100 % tightness
- **FIX Adaptor** made of PTFE



Bottle Top Dispenser FORTUNA® OPTIFIX® SAFETY S, with GL 32 thread, comes with 2 PTFE adaptors 40 + 45, 1 PTFE intake tube, single pack

Volume	grad.	Accuracy	Precision	Art.-No.
0.4 - 2 ml	0.1 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.107-27S
1 - 5 ml	0.2 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.107-33S
2 - 10 ml	0.5 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.107-38S
6 - 30 ml	1.0 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.107-44S
10 - 50 ml	1.0 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.107-48S
20 - 100 ml	2.0 ml	$\leq \pm 0,6 \%$	$\leq \pm 0.2 \%$	101.107-51S

FORTUNA® OPTIFIX® TITRIER



Benefits

- easy to use - easy to read LCD-display
- left or right hand operation
- no metal spring in the valve
- high precision due to high tech micro electronic system
- can be used to dispense aggressive liquids

Application

- in chemical laboratories
- in environmental labs
- in food laboratories
- for daily routine work

Technical Features

- with certification of conformity
- GS = safety approved
- cylinder cap. 50 ml, display max. 99.99 ml
- subdivision 0.01 ml, Accuracy = $\pm 0.6\%$, Tolerance = $\pm 0.2\%$

The mechanism

The multifunction gear on the instrument can be used in right or left hand operation. The multifunction enables easy selection of macro or micro titration.

LCD-display / buttons

The size of the LCD-display figures is 10 mm. The arrow direction indicators

show clearly the FILL or TITration mode. LCD-display and buttons are at 10° angle to ensure easy reading and operation. The mode is switched automatically from FILL to TITration.

The dispensing unit

The high grade registered glass cylinder is amber stained to allow use with light sensitive liquid. The dispensing process is always visible.

The valve block system

is made of pure PTFE, can be directly mounted on bottles with thread GL 32 (DIN 168) and has an additional ball valve in the ventilation tube. No metal springs in the valves.

101.102 Electronic Burette OPTIFIX® Titratör, without flask, incl. 9 V battery, comes with 2 PTFE adapters GL 40 +GL 45, discharge tube set, PTFE intake tube. Packed individually in breakage proof soft foam packing.

101.105 Humidity absorber, made of solid PTFE, for hygroscopic liquids, without filling material

volac SMART Micropipettes

- ergonomic design
- light & smooth plunger action and soft feel handle grip
- suitable for both left and right hand users
- special PTFE sealing mechanism
- pipette handle has coating of Thermoplastic Elastomer which prevents transfer of body heat to the pipette - ensuring high accuracy even during continuous use
- large and clear 4 digit-display giving smaller increments for wider volume selection options
- resistant free click stop counter
- volume display is always visible while pipetting
- soft touch tip ejection
- locking mechanism for preventing accidental volume changes
- easily accessible recalibration mechanism



volac SMART fixed volume

Volume	Art.-No.
2.5 µl	SFA-205
5 µl	SFA-5
10 µl	SFA-10
20 µl	SFA-20
25 µl	SFA-25
50 µl	SFA-50
100 µl	SFA-100
200 µl	SFA-200
250 µl	SFA-250
500 µl	SFA-500
1000 µl	SFA-1000
2000 µl	SFA-2000
5000 µl	SFA-5000
10000 µl	SFA-10000

volac SMART, variable

Volume	Art.-No.
0.1-2.5 µl	SVA-125
0.5-10 µl	SVA-010
2-20 µl	SVA-700
5.0-50 µl	SVA-200
10-100 µl	SVA-500
20-200 µl	SVA-800
100-1000 µl	SVA-600
500-5000 µl	SVA-905
1000-10000 µl	SVA-1000

Stand for 6 micropipettes

Art.-No.
SAS-01



volac SMART, 8 and 12 channels, variable

Volume	grad.	8 Art.-No.	12 Art.-No.
0.5 - 10	0.02	SMA-010	SMA12-010
5.0 - 50	0.1	SMA-050	SMA12-050
10-100	0.1	SMA-100	SMA12-100
20 -200	0.2	SMA-200	SMA12-200
30-300	0.2	SMA-300	SMA12-300

FORTUNA® Volumetric Glassware

1.008

FORTUNA® Burette, with straight stopcock and PTFE-key, blue graduation, Schellbach, class AS, conformity approved, with batch certificate, borosilicate glass 3.3, single pack

Capacity	grad.	Tolerance	flow time	Art.-No.
10 ml	: 0.02	± 0.020 ml	35 -45 sec	1.008-34-02P
20 ml	: 0.05	± 0.030 ml	35 -45 sec	1.008-42-02P
25 ml	: 0.10	± 0.050 ml	35 -45 sec	1.008-45-02P
50 ml	: 0.20	-	-	1.008-49-02P

1.114

FORTUNA® Graduated Pipette, total delivery, blue graduation, class AS, conformity approved, with batch certificate, clear glass, with ring marks, soda lime glass, pack 5

Capacity	grad.	Tolerance	flow time	Art.-No.
1 ml	: 0.01	± 0.007 ml	2 - 8 sec	1.114-19-402
2 ml	: 0.01	± 0.010 ml	2 - 8 sec	1.114-23-402
5 ml	: 0.05	± 0.030 ml	5 - 11 sec	1.114-32-402
5 ml	: 0.10	± 0.030 ml	5 - 11 sec	1.114-33-402
10 ml	: 0.10	± 0.050 ml	5 - 11 sec	1.114-37-402
20 ml	: 0.10	± 0.100 ml	5 - 11 sec	1.114-41-402
25 ml	: 0.10	± 0.100 ml	9 - 15 sec	1.114-43-402
50 ml	: 0.20	± 0.200 ml	25 - 35 sec	1.114-47-402

Original FORTUNA® Graduated Pipette with suction piston, blue graduation, clear glass, with tolerance indications, use of pipetting aid not necessary, soda lime glass, single pack

Capacity	grad.	Art.-No.
1 ml	: 0.01	1.142-19-02
2 ml	: 0.02	1.142-25-02
5 ml	: 0.05	1.142-32-02
5 ml	: 0.10	1.142-33-02
10 ml	: 0.10	1.142-37-02
20 ml	: 0.10	1.142-41-02
25 ml	: 0.10	1.142-43-02
50 ml	: 0.20	1.142-47-02
100 ml	: 1.00	1.142-51-02

1.142

FORTUNA® Glassware also available with amber graduation.

FORTUNA® Volumetric Glassware

FORTUNA® Bulb Pipette, with 1 mark, blue graduation, class AS, clear glass, conformity approved, with batch certificate, soda lime glass, pack 5

Capacity	Tolerance	flow time	Art.-No.
1 ml	± 0.007 ml	5 - 9 sec	1.230-19-02
2 ml	± 0.010 ml	5 - 9 sec	1.230-25-02
5 ml	± 0.015 ml	7 - 11 sec	1.230-31-02
10 ml	± 0.020 ml	8 - 12 sec	1.230-36-02
20 ml	± 0.030 ml	9 - 13 sec	1.230-40-02
25 ml	± 0.030 ml	10 - 15 sec	1.230-41-02
50 ml	± 0.050 ml	13 - 18 sec	1.230-45-02
100 ml	± 0.080 ml	25 - 30 sec	1.230-51-02

Original FORTUNA® Bulb Safety Pipette with suction piston, blue graduation, clear glass, with tolerance indications, use of pipetting aid not necessary, soda lime glass, single pack

Capacity	Art.-No.
1 ml	1.282-19-02
2 ml	1.282-25-02
5 ml	1.282-31-02
10 ml	1.282-36-02
20 ml	1.282-40-02
25 ml	1.282-41-02
50 ml	1.282-45-02
100 ml	1.282-51-02

FORTUNA® Volumetric flask, Clear glass Made in Germany, with coloured ring mark, blue graduation, class A, conformity approved, with batch certificate, borosilicate glass 3.3, with PP-stopper, pack 5 (*2)

Capacity	TS	Art.-No. clear	Art.-No. amber
5 ml	10/19	1.512-33-02	1.515-33
10 ml	10/19	1.512-37-02	1.515-37
15 ml	10/19	1.512-39-02	1.515-39
20 ml	10/19	1.512-41-02	1.515-41
25 ml	10/19	1.512-43-02	1.515-43
50 ml	12/21	1.512-45-02	1.515-45
50 ml	14/23	1.512-46-02	1.515-46
100 ml	14/23	1.512-47-02	1.515-47
100 ml	12/21	1.512-51-02	1.515-51
200 ml	14/23	1.512-53-02*	1.515-53
250 ml	14/23	1.512-55-02*	1.515-55
500 ml	19/26	1.512-59-02*	1.515-59
1000 ml	24/29	1.512-61-02*	1.515-61



FORTUNA® Volumetric Glassware

1.310



FORTUNA® Graduated Cylinder, Made in Germany, blue graduation, class A, conformity approved, borosilicate glass 3.3, hexagonal base, pack 2 (*1)

Capacity grad.	Tolerance	Art.-No.
5 ml : 0.1	± 0.05 ml	1.310-33-02
10 ml : 0.2	± 0.1 ml	1.310-37-02
25 ml : 0.5	± 0.25 ml	1.310-43-02
50 ml : 1	± 0.50 ml	1.310-45-02
100 ml : 1	± 0.50 ml	1.310-51-02
250 ml : 2	± 1.0 ml	1.310-55-02
500 ml : 5	± 2.5 ml	1.310-59-02
1000 ml : 10	± 5.0ml	1.310-61-02
2000 ml : 20 *	± 10.0	1.310-63-02

FORTUNA® Mixing Cylinder, Made in Germany, blue graduation, class A, conformity approved, borosilicate glass 3.3, hexagonal base, with PP-stopper, pack 2 (*1)

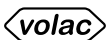
Capacity grad.	Tolerance	Art.-No.
10 ml : 0.2	± 0.10 ml	1.420-37-02
25 ml : 0.5	± 0.25 ml	1.420-43-02
50 ml : 1	± 0.50 ml	1.420-45-02
100 ml : 1	± 0.50 ml	1.420-51-02
250 ml : 2	± 1.00 ml	1.420-55-02
500 ml : 5	± 2.50 ml	1.420-59-02
1000 ml : 10	± 5.00 ml	1.420-61-02
2000 ml : 20 *	± 10.0 ml	1.420-63-02



1.420



FORTUNA® Glassware also available with amber graduation.



Volumetric Glassware



Volumetric Flasks, class A, white graduation, individually calibrated, serially numbered, **clear glass**, borosilicate glass, with Polystop®, pack 5 pieces (*2, **1)

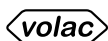
Capacity	TS	ISO and ASTM incl. batch cert. NO single cert.	ISO and ASTM incl. batch cert. with single cert.	acc. to USP with indiv. serial number + single cert.
5 ml	10/19	RB258/A/5	RB258/WAC/A/5	US258WAC/A/5
10 ml	10/19	RB258/B/5	RB258/WAC/B/5	US258WAC/B/5
20 ml	10/19	RB258/D/5	RB258/WAC/D/5	US258WAC/D/5
25 ml	10/19	RB258/E/5	RB258/WAC/E/5	US258WAC/E/5
50 ml	12/21	RB258/F/5	RB258/WAC/F/5	US258WAC/F/5
100 ml	12/21	RB258/G/5	RB258/WAC/G/5	US258WAC/G/5
200 ml	14/23	RB258/H/2*	RB258/WAC/H/2*	US258WAC/H/2*
250 ml	14/23	RB258/I/2*	RB258/WAC/I/2*	US258WAC/I/2*
500 ml	19/26	RB258/J/2*	RB258/WAC/J/2*	US258WAC/J/2*
1000 ml	24/29	RB258/K/2*	RB258/WAC/K/2*	US258WAC/K/2*
2000 ml	29/32	RB258/L/S**	RB258/WAC/L/S**	US258WAC/L/S**
5000 ml	34/35	RB258/M/S**	RB258/WAC/M/S**	US258WAC/M/S**



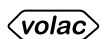
Volumetric Flasks, class A, white graduation, individually calibrated, serially numbered, **amber glass**, borosilicate glass, with Polystop®, pack 5 pieces (*2, **1)



Capacity	TS	ISO and ASTM incl. batch cert. NO single cert.	ISO and ASTM incl. batch cert. with single cert.	acc. to USP with indiv. serial number + single cert.
5 ml	10/19	RB258/AM/A/5	RB258/AM/WAC/A/5	US258/AM/WAC/A/5
10 ml	10/19	RB258/AM/B/5	RB258/AM/WAC/B/5	US258/AM/WAC/B/5
20 ml	10/19	RB258/AM/D/5	RB258/AM/WAC/D/5	US258/AM/WAC/D/5
25 ml	10/19	RB258/AM/E/5	RB258/AM/WAC/E/5	US258/AM/WAC/E/5
50 ml	12/21	RB258/AM/F/5	RB258/AM/WAC/F/5	US258/AM/WAC/F/5
100 ml	12/21	RB258/AM/G/5	RB258/AM/WAC/G/5	US258/AM/WAC/G/5
200 ml	14/23	RB258/AM/H/2*	RB258/AM/WAC/H/2*	US258/AM/WAC/H/2*
250 ml	14/23	RB258/AM/I/2*	RB258/AM/WAC/I/2*	US258/AM/WAC/I/2*
500 ml	19/26	RB258/AM/J/2*	RB258/AM/WAC/J/2*	US258/AM/WAC/J/2*
1000 ml	24/29	RB258/AM/K/2*	RB258/AM/WAC/K/2*	US258/AM/WAC/K/2*
2000 ml	29/32	RB258/AM/L/S**	RB258/AM/WAC/L/S**	US258/AM/WAC/L/S**
5000 ml	34/35	RB258/AM/M/S**	RB258/AM/WAC/M/S**	US258/AM/WAC/M/S**

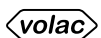


Volumetric Glassware



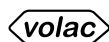
Graduated Cylinder, Class A, white graduation, borosilicate glass,
hexagonal base, pack 2 pieces (*1)

Capacity grad.	ISO and ASTM incl. batch cert. NO single cert.	ISO and ASTM incl. batch cert. with single cert.	acc. to USP with indiv. serial number + single cert.
5 ml : 0.1	R263/A/2	R263/WAC/A/2	US263/WAC/A/2
10 ml : 0.2	R263/B/2	R263/WAC/B/2	US263/WAC/B/2
25 ml : 0.5	R263/D/2	R263/WAC/D/2	US263/WAC/D/2
50 ml : 1.0	R263/E/2	R263/WAC/E/2	US263/WAC/E/2
100 ml : 1.0	R263/F/2	R263/WAC/F/2	US263/WAC/F/2
250 ml : 2.0	R263/G/2	R263/WAC/G/2	US263/WAC/G/2
500 ml : 5.0	R263/H/2	R263/WAC/H/2	US263/WAC/H/2
1000 ml : 10.0	R263/I/2	R263/WAC/I/2	US263/WAC/I/2
2000 ml : 20.0	R263/J/S*	R263/WAC/J/S*	US263/WAC/J/S*

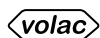


Mixing Cylinder, Class A, white graduation, borosilicate glass,
hexagonal base, with PP-stopper, pack 2 pieces (*1)

Capacity grad.	ISO and ASTM incl. batch cert. NO single cert.	ISO and ASTM incl. batch cert. with single cert.	acc. to USP with indiv. serial number + single cert.
5 ml : 0.1	R264/A/2	R264/WAC/A/2	US264/WAC/A/2
10 ml : 0.2	R264/B/2	R264/WAC/B/2	US264/WAC/B/2
25 ml : 0.5	R264/D/2	R264/WAC/D/2	US264/WAC/D/2
50 ml : 1.0	R264/E/2	R264/WAC/E/2	US264/WAC/E/2
100 ml : 1.0	R264/F/2	R264/WAC/F/2	US264/WAC/F/2
250 ml : 2.0	R264/G/2	R264/WAC/G/2	US264/WAC/G/2
500 ml : 5.0	R264/H/2	R264/WAC/H/2	US264/WAC/H/2
1000 ml : 10.0	R264/I/2	R264/WAC/I/2	US264/WAC/I/2
2000 ml : 20.0	R264/J/S*	R264/WAC/J/S*	US264/WAC/J/S*



Disposable Pasteur Pipettes



Disposable Pasteur Pipettes, made of glass

Length

150 mm
230 mm
270 mm
310 mm
350 mm

unplugged
non-sterile

Art.-No.

D810
D812
D814
D815
D816

plugged
non-sterile

Art.-No.

D810/PP
D812/PP
D814/PP
D815/PP
D816/PP

Packing unit: 1000 pcs.

Superior
Quality!

Length

150 mm
230 mm

pre-sterilised,
pre-plugged

Art.-No.

D810/VA
D812/VA

Packing unit: 250 (10 x 25 pcs.)

unplugged,
heavy wall

D812/HW

Art.-No.

D812/HW

pre-plugged,
heavy wall

D812/HW/PP

Art.-No.

D812/HW/PP

Length

230 mm

Packing unit: 800 pcs.

Poulsen & Graf Laboratory Products



Erlenmeyer Flask

with rim, white graduation, borosilicate glass, **Pack unit:** 10 (*6)

Capacity	Art.-No. narrow neck	Art.-No. wide neck
50 ml	8.680-17-400	8.690-17-400
100 ml	8.680-24-400	8.690-24-400
250 ml	8.680-36-400	8.690-36-400
300 ml	8.680-39-400	8.690-39-400
500 ml	8.680-44-400	8.690-44-400
1000 ml	8.680-54-400	8.690-54-400
2000 ml	8.680-63-400*	8.690-63-400*

Beaker

borosilicate glass, **Pack unit:** 10 (*4), ⁽¹⁾ without graduation

⁽²⁾ not acc. to ISO standard



Capacity	Art.-No. low form	Art.-No. high form
5 ml	8.650-10-400 ⁽¹⁾	-
10 ml	8.650-12-400 ⁽¹⁾	-
25 ml	8.650-14-400	8.660-14-400 ⁽²⁾
50 ml	8.650-17-400	8.660-17-400
100 ml	8.650-24-400	8.660-24-400
150 ml	8.650-29-400	8.660-29-400
250 ml	8.650-36-400	8.660-36-400
400 ml	8.650-41-400	8.660-41-400
600 ml	8.650-48-400	8.660-48-400
800 ml	8.650-53-400	8.660-53-400
1000 ml	8.650-54-400	8.660-54-400
2000 ml	8.650-63-400*	8.660-63-400*

Poulsen & Graf Laboratory Products

Glass stopper

with hexagonal plate, hollow, borosilicate glass, **Pack unit:** 10

TS	Art.-No. clear glass	Art.-No. amber glass
10/19	6.946-10	6.946-10B
12/21	6.946-15	6.946-15B
14/23	6.946-20	6.946-20B
19/26	6.946-25	6.946-25B
24/29	6.946-30	6.946-30B
29/32	6.946-35	6.946-35B
34/35	6.946-40	6.946-40B
45/40	6.946-45	-



Funnel, angle 60°

borosilicate glass,

⁽¹⁾ not acc. to ISO standard,

Pack unit: 10

Diameter	Art.-No.
30 mm	8.310-02-400 ⁽¹⁾
35 mm	8.310-03-400
40 mm	8.310-04-400 ⁽¹⁾
45 mm	8.310-05-400 ⁽¹⁾
50 mm	8.310-06-400 ⁽¹⁾
55 mm	8.310-07-400
60 mm	8.310-08-400 ⁽¹⁾
70 mm	8.310-11-400 ⁽¹⁾
75 mm	8.310-14-400
80 mm	8.310-16-400 ⁽¹⁾
85 mm	8.310-18-400 ⁽¹⁾
100 mm	8.310-19-400
125 mm	8.310-23-400
150 mm	8.310-31-400

Other laboratory products on request.

Poulsen & Graf Laboratory Bottles



Safety Coated Surfisil® Reagent Bottle

clear or amber glass, with Polystop®, **Pack unit:** 10 (*2)

Capacity	TS	Art.-No. clear	Art.-No. amber
30 ml	16/16	SCP705/A/10	-
50 ml	16/16	SCP705/B/10	SCP705/AM/B/10
100 ml	16/16	SCP705/C/10	SCP705/AM/C/10
250 ml	24/20	SCP705/D/10	SCP705/AM/D/10
500 ml	24/20	SCP705/E/2*	SCP705/AM/E/2*
1000 ml	29/32	SCP705/F/2*	SCP705/AM/F/2*

Safety Coated Surfisil® Reagent Bottle,

clear or amber glass, with solid amber glass stopper, **Pack unit:** 10 (*2)



Capacity	TS	Art.-No. clear	Art.-No. amber
30 ml	16/16	SCG705/A/10	-
50 ml	16/16	SCG705/B/10	SCG705/AM/B/10
100 ml	16/16	SCG705/C/10	SCG705/AM/C/10
250 ml	24/20	SCG705/D/10	SCG705/AM/D/10
500 ml	24/20	SCG705/E/2*	SCG705/AM/E/2*
1000 ml	29/32	SCG705/F/2*	SCG705/AM/F/2*



Polystop® Dropping Bottle, clear or amber glass,

with Polystop® 3 piece stopper (including a strong ungraduated glass pipette, a durable vinyl teat and a PP-stopper), **Packing unit:** 10 (*2)

Capacity	TS	Art.-No. clear	Art.-No. amber
30 ml	16/16	L188/A/10	-
50 ml	16/16	L188/B/10	L188/AM/B/10
100 ml	16/16	L188/C/10	L188/AM/C/10

Other laboratory bottles on request.

Poulsen & Graf Laboratory Bottles

Polystop® Dropping Bottle, clear or amber glass,
with Polystop® 3 piece stopper (including a strong amber
graduated dropping pipette, a durable vinyl teat and a
PP-stopper), **Packing unit:** 10 (*2)

Capacity	TS	Droppervol.	Art.-No. clear
100 ml	16/16	1 ml : 0.5	L700/A/10
250 ml	24/20	8 ml : 0.2	L700/B/2*
500 ml	24/20	10 ml : 0.2	L700/C/2*

Capacity	TS	Droppervol.	Art.-No. amber
100 ml	16/16	1 ml : 0.5	L700/AM/A/10
250 ml	24/20	8 ml : 0.2	L700/AM/B/2*
500 ml	24/20	10 ml : 0.2	L700/AM/C/2*



Plain Narrow Mouth Reagent Bottle

clear or amber glass, with Polystop®, Packing unit: 10 (*2)

Capacity	TS	Art.-No. clear	Art.-No. amber
30 ml	16/16	RP705/A/10	-
50 ml	16/16	RP705/B/10	RP705/AM/B/10
100 ml	16/16	RP705/C/10	RP705/AM/C/10
250 ml	24/20	RP705/D/10	RP705/AM/D/10
500 ml	24/20	RP705/E/2*	RP705/AM/E/2*
1000 ml	29/32	RP705/F/2*	RP705/AM/F/2*



Weighing Bottle

borosilicate glass 3.3, tall form, with ground
hollow blown and totally enclosed stopper, Pack: 4

Height x	Diameter	Capacity	Art.-No.
40 mm	20 mm	8 ml	L180/A/4
50 mm	25 mm	15 ml	L180/B/4
60 mm	30 mm	28 ml	L180/C/4
80 mm	40 mm	60 ml	L180/D/4
100 mm	50 mm	135 ml	L180/E/4



Poulsen & Graf FORTUNA® Syringes

FORTUNA® OPTIMA® All Glass Syringe

Durobax® glass, amber graduation, CE, **Pack unit:** 1



Capacity	grad./ml	Art.-No. Luer	Luer-Lock
1 ml	: 0.05	7.102-21	7.140-21
2 ml	: 0.1	7.102-27	7.140-27
3 ml	: 0.1	7.102-29	7.140-29
5 ml	: 0.2	7.102-33	7.140-33
10 ml	: 0.2	7.102-37	7.140-37
20 ml	: 1.0	7.102-41	7.140-41
30 ml	: 1.0	7.102-44	7.140-44
50 ml	: 2.0	7.102-45	7.140-45
100 ml	: 4.0	7.102-51	7.140-51



FORTUNA® OPTIMA® Glass and Metal Syringe

Durobax® glass, with steel piston, interchangeable, amber graduation, CE, **Pack unit:** 1

Capacity	grad./ml	Art.-No. Record	Luer	Luer-Lock
1 ml	: 0.1	7.200-21	7.202-21	7.240-21
2 ml	: 0.1	7.200-27	7.202-27	7.240-27
5 ml	: 0.2	7.200-33	7.202-33	7.240-33
10 ml	: 0.5	7.200-37	7.202-37	7.240-37
20 ml	: 1.0	7.200-41	7.202-41	7.240-41
30 ml	: 1.0	7.200-44	7.202-44	7.240-44
50 ml	: 1.0	7.200-48	7.202-48	7.240-48

Poulsen & Graf Single Use Syringes

HSW Single Use Syringes, 2-part, without needle

sterile, CE, with Luer tip, **Packing unit:** 100 pcs. (*50, **30)

Capacity	Ext. Grad.	Art.-No. Luer
2 ml	3 ml	7.410-01
5 ml	6 ml	7.410-04
10 ml	12 ml	7.410-06
20 ml	24 ml	7.410-08
30 ml		7.410-10*
50 ml	60 ml	7.410-12**

HSW Single Use Syringes, 2-part, without needle

sterile, CE, with Luer-Lock or Catheter tip, **Packing unit:**
50 pcs. (*30)

Capacity	Ext. Grad.	Art.-No. Luer-Lock	Art.-No. Catheter
2 ml		7.415-01	
30 ml		7.415-10	7.418-10
50 ml	60 ml	7.415-12*	7.418-12*

HSW Single Use Syringes, 2-part, with by-packed needle

sterile, CE, with Luer tip, **Packing unit:** 100 pcs.

Capacity	Ext. Grad.	Art.-No. Luer
2 ml	3 ml	7.470-02
5 ml	6 ml	7.470-04
10 ml	12 ml	7.470-06
20 ml	24 ml	7.470-08



Other syringes on request. Gas syringes also available.

NEW

A white automatic dispenser with a graduated tube and a yellow and grey cabinet. The tube has markings from 20 to 100. The cabinet is yellow and grey.

FORTUNA® OPTIMAT®

**Automatic
programmable
Dispenser
for dispensing strong acids
and aggressive chemicals**

**New design and technical
features will be available
from October 2014**

Poulten & Graf Ltd

Peak Works, 1 Alfreds Way
Barking, Essex,
IG 11 0AS, UK
Tel.: +44 (0)20 8594 4256
Fax: +44 (0)20 8594 8419
www.poulten-graf.co.uk
VOLAC@poulten-graf.com

Poulten & Graf GmbH

Karl-Carstens-Str. 10,
97877 Wertheim, Germany
Tel.: +49 9342 9229-0
Fax: +49 9342 9229-80
www.poulten-graf.de
FORTUNA@poulten-graf.com
www.shop.poulten-graf.de