

## ► Burettes

### BURETTE with Screw type Needle Valve, PTFE stopcock,

With Individual Work Certificate, Serially Numbered,  
Accuracy as per AS DIN 12700, ISO 385.

Art No.	Capacity (ml)	Sub. Div. (ml)	Tolerance (+/-ml)	Quantity Per Case
113.223.01	10	0.05	0.02	12
113.223.02	25	0.10	0.05	12
113.223.03	50	0.10	0.05	12



### BURETTE with Screw type Needle Valve, PTFE stopcock, Schell Bach Stripe

With Individual Work Certificate, Serially Numbered,  
Accuracy as per AS DIN 12700, ISO 385.

Art No.	Capacity (ml)	Sub. Div. (ml)	Tolerance (+/-ml)	Quantity Per Case
112.223.01A	10	0.05	0.02	12
112.223.02A	25	0.10	0.05	12
112.223.03A	50	0.10	0.05	12



### BURETTE with Screw type Needle Valve, PTFE stopcock- Class B

Accuracy as per AS DIN 12700, ISO 385.

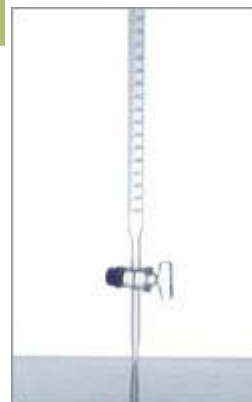
Art No.	Capacity (ml)	Sub. Div. (ml)	Tolerance (+/-ml)	Quantity Per Case
112.222.01	10	0.05	0.04	12
112.222.02	25	0.10	0.10	12
112.222.03	50	0.10	0.10	12



### BURETTE with Straight Bore Glass Key Stopcock,

With Individual Work Certificate, Serially Numbered,  
Accuracy as per AS DIN 12700, ISO 385.

Art No.	Capacity (ml)	Sub. Div. (ml)	Tolerance (+/-ml)	Quantity Per Case
111.223.01	10	0.05	0.05	5
111.223.02	25	0.10	0.10	5
111.223.03	50	0.10	0.10	5



**BURETTE with Straight Bore Glass Key Stopcock, Schell Bach Stripe**

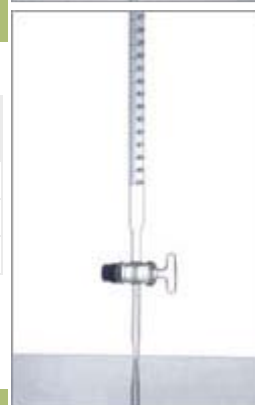
With Individual Work Certificate, Serially Numbered,  
Accuracy as per AS DIN 12700, ISO 385.

Art No.	Capacity (ml)	Sub. Div. (ml)	Tolerance (+/-ml)	Quantity Per Case
110.223.01	10	0.05	0.02	5
110.223.02	25	0.10	0.05	5
110.223.03	50	0.10	0.05	5

**BURETTE with Straight Bore Glass Key Stopcock, Class B**

Accuracy as per AS DIN 12700, ISO 385.

Art No.	Capacity (ml)	Sub. Div. (ml)	Tolerance (+/-ml)	Quantity Per Case
110.222.01	10	0.05	0.04	12
110.222.02	25	0.10	0.10	12
110.222.03	50	0.10	0.10	12

**BURETTE with Straight Bore PTFE Key Stopcock**

With Individual Work Certificate, Serially Numbered,  
Accuracy as per AS DIN 12700, ISO 385.

Art No.	Capacity (ml)	Sub. Div. (ml)	Tolerance (+/-ml)	Quantity Per Case
115.223.01	10	0.05	0.02	5
115.223.02	25	0.10	0.05	5
115.223.03	50	0.10	0.05	5

**BURETTE with Straight Bore PTFE Key Stopcock, Schell Bach Stripe**

With Individual Work Certificate, Serially Numbered,  
Accuracy as per AS DIN 12700, ISO 385.

Art No.	Capacity (ml)	Sub. Div. (ml)	Tolerance (+/-ml)	Quantity Per Case
114.223.04A	10	0.05	0.02	5
114.223.04A	25	0.10	0.05	5
114.223.04A	50	0.10	0.05	5



**BURETTE with Straight Bore PTFE Key Stopcock, Class B**

**Accuracy as per AS DIN 12700, ISO 385.**

Art No.	Capacity (ml)	Sub. Div. (ml)	Tolerance (+/-ml)	Quantity Per Case
114.222.01	10	0.05	0.04	12
114.222.02	25	0.10	0.10	12
114.222.03	50	0.10	0.10	12

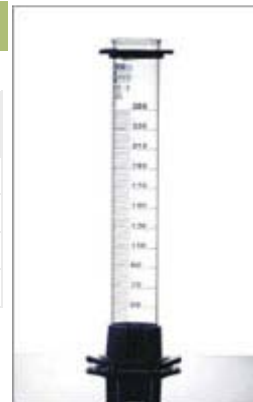


# ► Cylinders

## MEASURING CYLINDERS, CLASS B

### With Plastic Based and Protection Collar

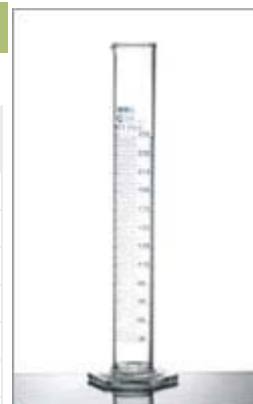
Art No.	Capacity (ml)	Sub. Div. (ml)	Tolerance (+/-ml)	App. Ht. (mm)	Quantity Per Case
137.202.02	10	0.5	0.2	140	2
137.202.03	25	0.2	0.5	170	2
137.202.04	50	1.0	1.0	200	2
137.202.05	100	1.0	1.0	260	2



## MEASURING CYLINDERS, with spout & Hexagonal Base

### Class A DIN 12680, With Individual Work Certificate, Serially Numbered,

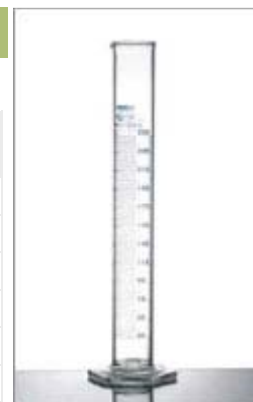
Art No.	Capacity (ml)	Sub. Div. (ml)	Tolerance (+/-ml)	App. Ht. (mm)	Quantity Per Case
139.223.01A	10	0.2	0.10	140	2
139.223.02A	25	0.5	0.25	170	2
139.223.03A	50	1.0	0.50	200	2
139.223.04A	100	1.0	0.50	260	2
139.223.05A	250	2.0	1.00	335	2
139.223.06A	500	5.0	2.50	390	2
139.223.07A	1000	10.0	5.00	470	2



## MEASURING CYLINDERS, with spout & Hexagonal Base

### Class B DIN 12680

Art No.	Capacity (ml)	Sub. Div. (ml)	Tolerance (+/-ml)	Quantity Per Case
138.222.01A	10	0.2	0.2	2
138.222.02A	25	0.5	0.5	2
138.222.03A	50	1.0	1.0	2
138.222.04A	100	1.0	1.0	2
138.222.05A	250	2.0	2.0	1
138.222.06A	500	5.0	5.0	1
138.222.07A	1000	10.0	10.0	1



## ► Volumetric Flasks

### VOLUMETRIC FLASK - Class A specifications & USP standards

With one Graduation Mark & Stopper made of polythelene, Vol. Flasks meet AST E-228 Class A specifications & USP standards, Flasks are Serially numbered and supplied with Individual Work Certificates.

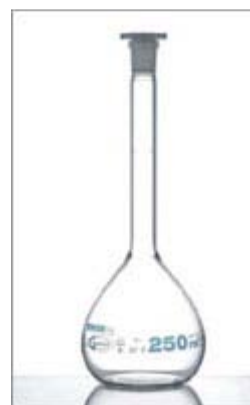
Art No.	Capacity (ml)	Tolerance (+/-ml)	Stopper Size (mm)	Quantity Per Case
130.220.01	5	0.02	10/15	2
130.220.02	10	0.02	10/15	2
130.220.02A	20	0.03	10/15	2
130.220.03	25	0.03	10/15	2
130.220.04	50	0.05	10/15	2
130.220.05	100	0.08	14/15	2
130.220.06	200	0.10	14/15	2
130.220.07	250	0.12	14/15	2
130.220.08	500	0.20	19/20	2
130.220.09	1000	0.30	19/20	1
130.220.10	2000	0.50	24/25	1



### VOLUMETRIC FLASK - Class A, ISO 1042, DIN 12664

With one Graduation Mark & Stopper made of polythelene ISO 1042, DIN 12664, Class A With Individual Work Certificates, Serially numbered.

Art No.	Capacity (ml)	Tolerance (+/-ml)	Stopper Size (mm)	Quantity Per Case
130.223.01	5	0.025	10/15	2
130.223.02	10	0.025	10/15	2
130.223.02A	20	0.040	10/15	2
130.223.03	25	0.040	10/15	2
130.223.04	50	0.060	10/15	2
130.223.05	100	0.100	14/15	2
130.223.06	200	0.150	14/15	2
130.223.07	250	0.150	14/15	2
130.223.08	500	0.250	19/20	2
130.223.09	1000	0.400	19/20	1
130.223.10	2000	0.600	24/25	1



**VOLUMETRIC FLASK - Class B****With one Graduation Mark & Stopper made of polythelene ISO 1042, DIN 12664,**

Art No.	Capacity (ml)	Tolerance (+/-ml)	Stopper Size (mm)	Quantity Per Case
128.234.01	5	0.05	10/15	2
128.232.02	10	0.05	10/15	2
128.234.02A	20	0.08	10/15	2
128.234.03	25	0.08	10/15	2
128.234.04	50	0.12	10/15	2
128.234.05	100	0.20	14/15	2
128.234.06	200	0.30	14/15	2
128.234.07	250	0.30	14/15	2
128.234.08	500	0.50	19/20	2
128.234.09	1000	0.80	19/20	1
128.234.10	2000	1.20	19/20	1

**VOLUMETRIC FLASK AMBER - Class A****With one Graduation Mark & Stopper made of polythelene ISO 1042, DIN 12664, Accuracy as per Class A. With Individual Work Certificates, Serially numbered.**

Art No.	Capacity (ml)	Tolerance (+/-ml)	Stopper Size (mm)	Quantity Per Case
130.223.01A	5	0.025	10/15	2
130.223.02AB	10	0.025	10/15	2
130.223.03A	20	0.040	10/15	2
130.223.04A	25	0.040	10/15	2
130.223.05A	50	0.060	10/15	2
130.223.06A	100	0.100	14/15	2
130.223.07A	200	0.150	14/15	2
130.223.08A	250	0.150	14/15	2
130.223.09A	500	0.250	19/20	2
130.223.10A	1000	0.400	19/20	1
130.223.11A	2000	0.600	19/20	1

**VOLUMETRIC FLASK AMBER - Class B.****With one Graduation Mark & Stopper made of polythelene ISO 1042, DIN 12664,**

Art No.	Capacity (ml)	Tolerance (+/-ml)	Stopper Size (mm)	Quantity Per Case
130.222.01A	5	0.05	10/15	2
130.222.01A	10	0.05	10/15	2
130.222.01A	20	0.08	10/15	2
130.222.01A	25	0.05	10/15	2
130.222.01A	50	0.12	10/15	2
130.222.01A	100	0.20	14/15	2
130.222.01A	200	0.30	14/15	2
130.222.01A	250	0.30	14/15	2
130.222.01A	500	0.50	19/20	2
130.222.01A	1000	0.80	19/20	1
130.222.01A	2000	0.80	19/20	1



# ▶ Pipettes

## PIPETTE VOLUMETRIC, CLASS A

with one mark, Accuracy as per class AS DIN 12691, ISO 648  
With Individual Work Certificates, Serially numbered.

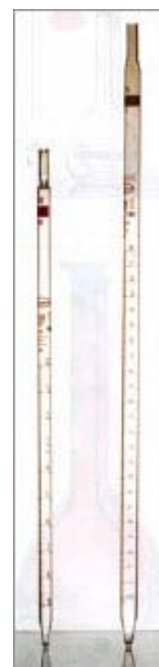
Art No.	Capacity (ml)	Tolerance (+/-ml)	Colour Code	Quantity Per Case
123.223.01	1	0.006	Blue	20
123.223.02	2	0.010	Orange	20
123.223.03	5	0.015	white	20
123.223.04	10	0.020	red	20
123.223.05	20	0.030	Yellow	20
123.223.06	25	0.030	Blue	20
123.223.07	50	0.050	Red	20
123.223.08	100	0.080	Yellow	20



## PIPETTE VOLUMETRIC, CLASS B

with one mark, Accuracy as per class AS DIN 12691, ISO 648

Art No.	Capacity (ml)	Tolerance (+/-ml)	Colour Code	Quantity Per Case
122.222.01	1	0.015	Blue	20
122.222.02	2	0.020	Orange	20
122.222.03	5	0.030	white	20
122.222.04	10	0.040	red	20
122.222.05	20	0.060	Yellow	12
122.222.06	25	0.060	Blue	12
122.222.07	50	0.100	Red	12
122.222.08	100	0.160	Yellow	12



## GRADUATED PIPETTE

Class AS DIN 12697, ISO-835 With Individual Work Certificates, Serially numbered.

Art No.	Capacity (ml)	Sub division	Tolerance (+/-ml)	Colour Code	Quantity Per Case
125.223.01	1	0.01	0.06	Yellow	20
125.223.02	2	0.02	0.010	Black	20
125.223.03	5	0.06	0.030	Red	20
125.223.04	10	0.10	0.050	Orange	20
125.223.06	20	0.20	0.100	White	20

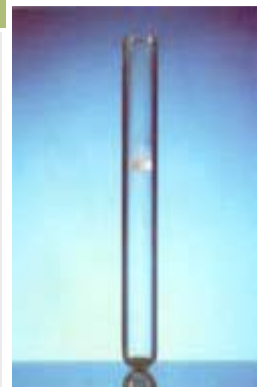
**GRADUATED PIPPETE****Class B**

Art No.	Capacity (ml)	Sub division	Tolerance (+/-ml)	Colour Code	Quantity Per Case
125.222.01	1	0.01	0.01	Yellow	20
125.222.02	2	0.02	0.02	Black	20
125.222.03	5	0.05	0.05	Red	20
125.222.04	10	0.10	0.10	Orange	20
125.222.06	20	0.20	0.20	White	20

## ► General Laboratory Glassware

### TEST TUBE ROUND BOTTOM, PLAIN BORO 3.3, WITH RIM

Art No.	Capacity	Height x O.D. (mm)	Wall thickness	Pack size
097.202.01	3 ML PLAIN	10X75MM	1MM	100
097.202.02	5 ML PLAIN	12X75MM	1MM	100
097.202.03	8 ML PLAIN	12X100MM	1MM	100
097.202.09	10 ML PLAIN	15X150MM	1.2 MM	100
097.202.04	10 ML PLAIN	15X125MM	1.2 MM	100
097.202.05	25 ML PLAIN	18X150MM	1.2 MM	100
097.202.12	75 ML PLAIN	25X100MM	1.2 MM	100
097.202.06	50 ML PLAIN	25X150MM	1.2 MM	100
097.202.07	75 ML PLAIN	25X200MM	1.2 MM	100



### BEAKER LOW FORM, WITH GRADUATION & SPOUT DIN 12331 ISO 3819

Art No.	Capacity	D. (mm)	H. (mm)	Pack size
229.202.01	5ML	22	30	10
229.202.02	10ML	26	35	10
229.202.03	25ML	34	50	10
229.202.04	50ML	42	60	10
229.202.05	100ML	50	70	10
229.202.06	150ML	60	80	10
229.202.07	250ML	70	95	10
229.202.08	400ML	80	110	10
229.202.09	600ML	90	125	8
229.202.10	1000ML	105	145	6
229.202.11	2000ML	132	185	4



### BEAKER TALL FORM, WITH GRADUATION & SPOUT DIN 12331 ISO 3819

Art No.	Capacity	D. (mm)	H. (mm)	Pack size
230.202.01	25ML	38	70	10
230.202.02	50ML	38	70	10
230.202.03	100ML	48	80	10
230.202.04	150ML	54	95	10
230.202.05	250ML	60	120	10



**ERLENMEYER FLASK NARROW NECK with graduation DIN 12331 ISO 3819**

Art No.	Capacity	D. (mm)	H. (mm)	Pack size
231.202.01	25ML	42	75	10
231.202.02	50ML	51	90	10
231.202.03	100ML	64	105	10
231.202.04	250ML	85	145	10
231.202.05	500ML	105	180	10
231.202.06	1000ML	131	220	10
231.202.07	2000ML	166	280	6

**ROUND BOTTOM FLASK NARROW NECK with beaded rim DIN 12347, ISO 1773**

Art No.	Capacity	D. (mm)	H. (mm)	Pack size
233.202.01	50ML	51	95	10
233.202.02	100ML	64	110	10
233.202.03	250ML	85	144	10
233.202.04	500ML	105	175	10
233.202.05	1000ML	131	200	10
233.202.06	2000ML	166	260	6

**FUNNEL filtering 60 deg angle with stem**

Art No.	Diameter	Pack size
238.202.02	35ML	10
238.202.05	50ML	10
238.202.09	75ML	10
238.202.11	100ML	10

**PETRI DISH**

Art No.	Diameter	Pack size
248.202.01	50X17 MM	10
248.202.02	80X17 MM	10
248.202.03	100X17 MM	10
248.202.04	150X20 MM	10



**REAGENT BOTTLES NARROW MOUTH Boro 3.3, Hollow Stopper**

Art No.	Capacity (ml)	Pack size
272.202.02	60 ML	10
272.202.03	125 ML	10
272.202.04	250 ML	10
272.202.05	500 ML	10
272.202.06	1000 ML	6
272.202.07	2000 ML	6

**BOTTLES B.O.D WITH INTERCHANGEABLE STOPPER**

Art No.	Capacity (ml)	Pack size
284.202.01	125 ML	2
284.202.02	300 ML	2



# ► Calibration & Certification



ScientificOEM has in house well equipped temperature controlled calibration laboratory with electronic precision balances, temperature indicators that are traceable to international standards, computerized machines, experienced & trained manpower for calibration of volumetric glassware.

Volumetric glassware are first calibrated with computer controlled calibration machines with distilled water. The meniscus is determined electronically for the exact lowest point by an electronic eye, the calibration mark is applied at the same moment. Due to this, you get accuracies that can never be achieved manually. Calibration marks are applied with fine diamond marking tools for clear visibility and evenness of location.

Unlike other manufacturers, all volumetric glassware goes through a subsequent batch testing. A 10% sample is regularly verified for calibration accuracy. A record of the tests is maintained in the database and is used for statistical quality control.



As we manufacture glassware with sizes, accuracy of calibration as per DIN, ISO, ASTM and USP standards, calibration data is recorded for each product kind! . The products are subsequently also tested for quality of prints, resistance to chemicals, interchangeability and mechanical strength to automatic cleaning equipments!

Volumetric glassware is available with certification, both individual as well as batch. Individually certified glassware is individually numbered and provided with an individual calibration certificate in a pack of one. Batch certified glassware is available in a pack of one with batch record of calibration. The samples of Batch and Individual Certificates are given on right hand side



## Technical Data ...

### LOW EXPANSION BOROSILICATE GLASS

From the 16th Century to today, chemical research teams have used glass containers for a very basic reason the glass containers is transparent, almost invisible. And so the contents and the reaction are clear visible, But because chemists music heat, cool and mix chemical substances, ordinary glass is not always adequate or laboratory works.

Laboratory works requires apparatus made in a glass - which can readily be mould ed into any desired shape or from which offers maximum inertness when in contact with the widest range of chemical substances, which can withstand thermal shock with fracture and high temperature work without deforming, and which will be resilient enough to survive the everyday knocks to which it will be subjected in normal laboratory handling, washing and sterilizing processes.

### CHEMICAL COMPOSITION

LOBAlife Glassware is a low alkali borosilicate composition. Its typical chemical composition is given under. It is virtually free of magnesia-lime-Zinc group and contains only traces of heavy metals.

Component	Percentage by weight
SiO <sub>2</sub>	81
B <sub>2</sub> O <sub>3</sub>	13
Na <sub>2</sub> O	4

### THERMAL PROPERTIES

As the Coefficient of thermal expansion of Borosilicate glass is low, the thermal stresses under a given temperature gradient are consequently low and the glass can withstand higher temperature gradients and also sudden temperature changes/ thermal shocks. Minute scratching of glass surface can however reduce its thermal resistance.

Coefficient of Linear Expansion	32.5x10 <sup>-7</sup> °C
Strains Point	515°C
Annealing Point	565°C
Softening Point	820°C
Specific Heat	0.2
Thermal Conductivity (Cal/cm <sup>2</sup> /°C/Sec)	0.0027

In general the 'Strain Point' should be regarded as the maximum safe operating temperature of Glassco glassware. When heated above 500°C the glass may acquire permanent stresses on cooling. All Glassco labware is annealed in modern ovens under strictly controlled conditions to ensure minimal residual stress in the products.

### CHEMICAL DURABILITY

LOBAlife Glassware in highly resistance water, neutral and acid solutions, concentrated acids and their mixtures as well as to chloride, bromine, iodine, and organic matters. Even during extended period of reaction and at temperatures above 100° C, its chemical resistance exceeds tha of mot metals

and other materials. It can withstand repeated dry and wet sterilisation without surface deterioration and subsequent contamination. Resistance to attack of various chemicals is shown under. Only hydrofloric acid, very hot phosphoric acid and alkaline solutions increasingly attack the glass surface with rising concentration and temperature.

Contact Chemical	Duration in hour	Loss in Wt. mg/m
Water distilled at 100°C	6	10
Water Vapour Steam at 121°C	1	75
Acid HCl	6	100
80% H2So4at 130°C	12	140
Alkali-1N soln. of NA2Co3 boiling Infusion Fluids Isotonic	6	4000
Nacl(0.85%) 121°C 2.	5	70
Glucose(5%)121°C 2.	5	50

### FABRICATION WITH BOROSILICATE GLASS

Due to low expansion of glass and easy workability, this glass can be shaped, formed, joined into complicated apparatus. It can be done even by an analyst in his own laboratory. He can keep on changing till he gets what he needs. In case where annealing in a controlled oven is difficult he can do so b flame annealing which is also great advantage.

### OPTICAL PROPERTIES

Laboratory glassware made form Borosilicate Glass shows no noticeable absorption in the visible region of the spectrum. It appear consequently clear and colourless.

### CARE & MAINTENANCE

When treated with proper care LOBAlife laboratory apparatus will give a long and satisfactory service. The following prepared notes are to assist users in obtaining the maximum life and performance from their apparatus. Our sales department will be happy to advise on any aspect concerning the safe use of our products.

### HEATING AND COOLING

Glass may suffer damage in three ways:

- » It may break under thermal stress in the steady state, that is when there is established constant thermal gradient through the glass.
- » It may break under the transient stress of a 'thermal shock', that is sudden heating or cooling.
- » It may, if heated beyond certain temperature, acquire a permanent stress on cooling which could cause subsequent failure.