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VOLAC - VOLumetric ACcuracy - The Ultimate Precision in Laboratory Glassware

MEASURING CYLINDERS

- Two complete ranges either borosilicate glass with hexagonal feet or soda-lime glass with round feet.
- Both ranges are available "spouted" or "stoppered", in Class B, Class A uncertified or Class A with works certificate.
- Stoppered borosilicate class A cylinders are also available in amber glass.

All cylinders of both types of glass are printed in permanent amber stain which is absorbed into the glass and which can only be removed by grinding or by use of chemicals which attack glass.

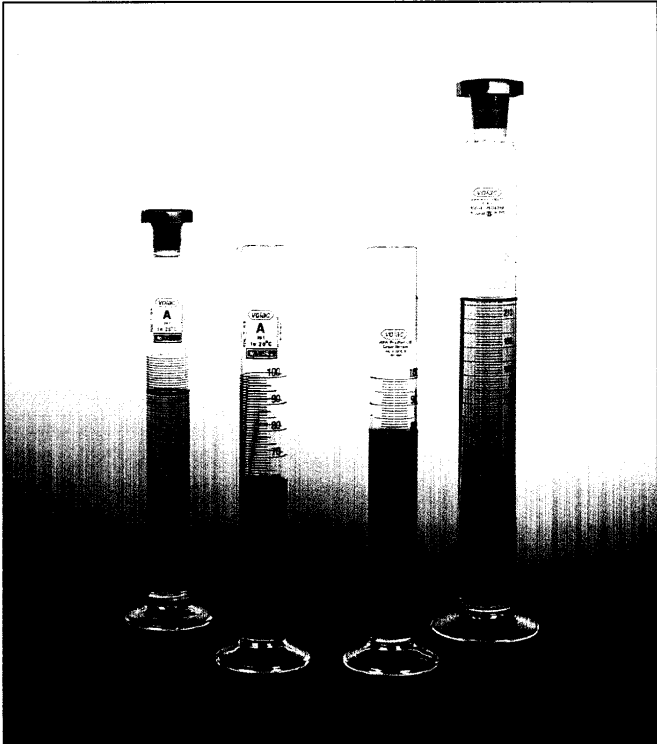
Every spouted cylinder is formed to ensure clean, non drip pouring. Every stoppered cylinder has a tooled and ground neck fitted with a "Polystop" polypropylene interchangeable stopper.

All soda-lime cylinders (except the 2000ml size) are fitted with hexagonal polypropylene "bumpers" which prevent cylinders from rolling off benches and help to avoid breakages.

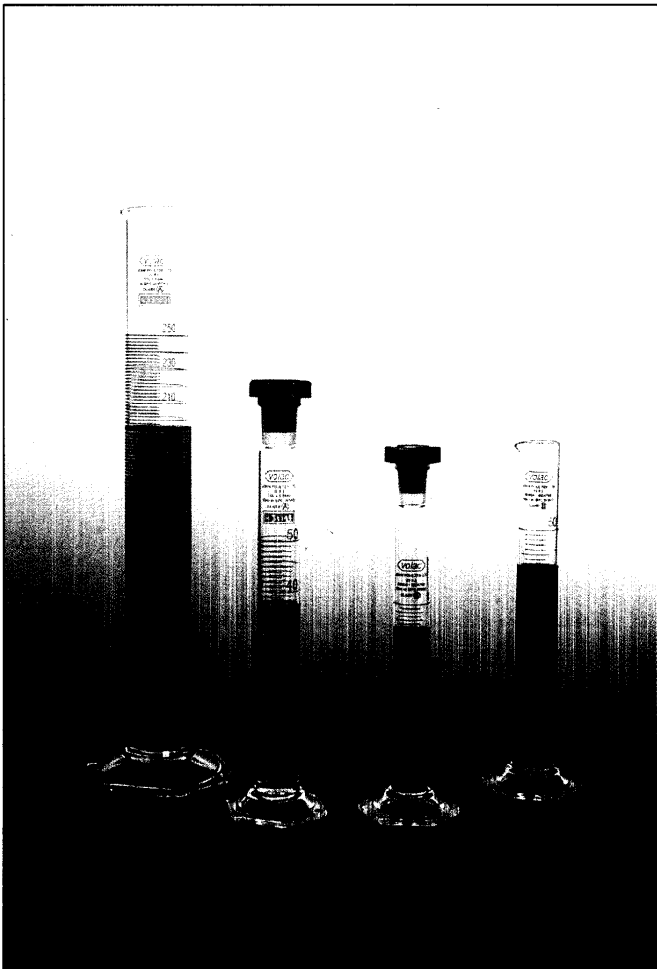
All cylinders, Class B or Class A, are individually calibrated and individually printed to ensure the scale length exactly fits the calibration of each cylinder. All Class A cylinders are individually tested, individually numbered and fully traceable. If a Works Certificate is required this will show date of testing, test results at 5 points and the identification number of the cylinder.

All Class B cylinders satisfy the requirements of International Standards ISO 4788: 1980, British Standard BS604: 1992 (93) and DIN Standard 12680 part 2. There are no recognised standards for Class A cylinders in spite of considerable demand. Therefore we have formulated our own Class A accuracy standards at half the accuracy tolerances ascribed to Class B or better (see below).

In addition to these ranges we also offer plain spouted cylinders for use as hydrometer trial jars and 2-Way Figured Class B spouted cylinders, all in soda-lime glass.



Soda-lime glass cylinders



Borosilicate glass cylinders

ACCURACY TOLERANCE & SPECIFICATIONS

CLASS B conforms to ISO 4788: 1980 BS604: 1982/93 DIN 12 680 pt 2	CLASS A there are no national or international standards for Class A and 1/2 the Class B tolerances or less have been used	STOPPER SIZES Where applicable
5ml ± 0.1ml	± 0.05ml	10/13
10 ± 0.2ml	± 0.1ml	10/13
25 ± 0.5ml	± 0.15ml	14/15
50 ± 1.0ml	± 0.25ml	19/17
100 ± 1.0ml	± 0.5ml	24/20
250 ± 2.0ml	± 1.0ml	29/32
500 ± 5.0ml	± 1.5ml	34/35
1000 ± 10.0ml	± 3.0ml	40/45
2000 ± 20.0ml	± 6.0ml	40/45

The accuracy of all VOLAC volumetric glassware is unconditionally guaranteed

**SODA-LIME GLASS (with round feet,
permanent amber markings and polypropylene bumpers)**

SPOUTED CYLINDERS

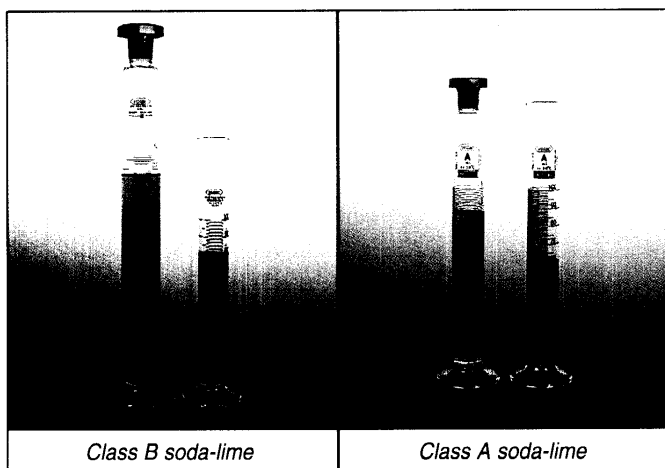
CLASS B		CLASS A UNCERTIFIED		CLASS A CERTIFIED
R250/A/2	5ml in 0.1	R253/NC/A/2	5ml in 0,1	R253/WAC/A/2
R250/B/2*	10ml in 0.1	R253/NC/B/2	10ml in 0.2	R253/WAC/B/2
R250/C/2	10ml in 0.2	R253/NC/C/2	25ml in 0.5	R253/WAC/C/2
R250/D/2	25ml in 0.5	R253/NC/D/2	50ml in 1.0	R253/WAC/D/2
R250/E/2	50ml in 1.0	R253/NC/E/2	100ml in 1.0	R253/WAC/E/2
R250/F/2	100ml in 1.0	R253/NC/F/2	250ml in 2.0	R253/WAC/F/2
R250/G/2	250ml in 2.0	R253/NC/G/2	500ml in 5.0	R253/WAC/G/2
R250/H/2	500ml in 5.0	R253/NC/H/2	1000ml in 10.0	R253/WAC/H/2
R250/I/2	1000ml in 10.0	R253/NC/I/S	2000ml in 20.0	R253/WAC/I/S
R250/J/S	2000ml in 20.0			

STOPPERED CYLINDERS

CLASS B		CLASS A UNCERTIFIED		CLASS A CERTIFIED
R251/A/2	5ml in 0.1	R254/NC/A/2	5ml in 0.1	R254/WAC/A/2
R251/B/2*	10ml in 0.1	R254/NC/B/2	10ml in 0.2	R254/WAC/B/2
R251/C/2	10ml in 0.2	R254/NC/C/2	25ml in 0.5	R254/WAC/C/2
R251/D/2	25ml in 0.5	R254/NC/D/2	50ml in 1.0	R254/WAC/D/2
R251/E/2	50ml in 1.0	R254/NC/E/2	100ml in 1.0	R254/WAC/E/2
R251/F/2	100ml in 1.0	R254/NC/F/2	250ml in 2.0	R254/WAC/F/2
R251/G/2	250ml in 2.0	R254/NC/G/2	500ml in 5.0	R254/WAC/G/2
R251/H/2	500ml in 5.0	R254/NC/H/2	1000ml in 10.0	R254/WAC/H/2
R251/I/2	1000ml in 10.0	R254/NC/I/S	2000ml in 20.0	R254/WAC/I/S
R251/J/S	2000ml in 20.0			

* not listed in ISO, BS or DIN standards

Pack sizes are indicated by the last coding number (e.g. 2 or letter e.g. S for single packs)



Class B soda-lime

Class A soda-lime

**TWO-WAY FIGURED
CYLINDERS
(Soda-lime glass)**

CLASS B	
R252/A/2	5ml in 0.1
R252/B/2	10ml in 0.1
R252/C/2	25ml in 0.5
R252/D/2	50ml in 1.0
R252/E/2	100ml in 1.0
R252/F/2	250ml in 2.0
R252/G/2	500ml in 5.0
R252/H/2	1000ml in 10.0

**PLAIN
SPOUTED CYLINDERS
HYDROMETER TRIAL JARS**

	CAPACITY	SIZE mm
R249/A/2	100mm	250 x 31
R249/B/2	250mm	330 x 42
R249/C/2	500ml	390 x 54
R249/D/2	1000ml	460 x 67
R249/E/S	2000ml	570 x 80

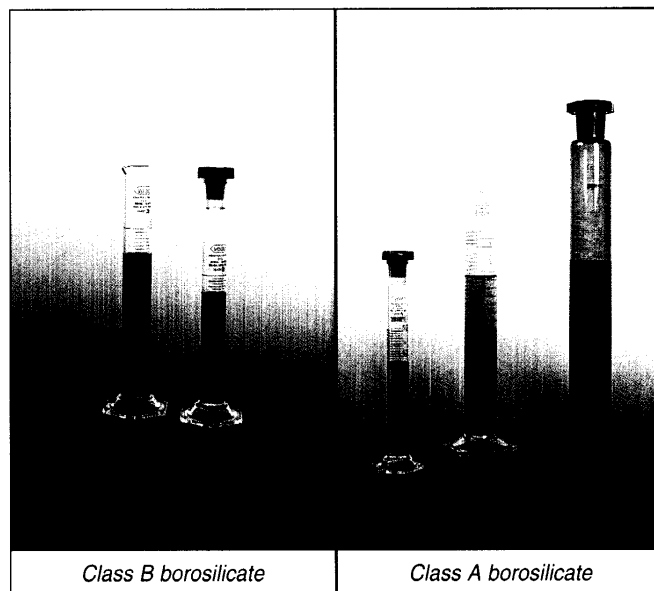
**BOROSILICATE GLASS
(with hexagonal feet, permanent amber markings)**

SPOUTED CYLINDERS

CLASS B	CAPACITY	CLASS A UNCERTIFIED	CLASS A CERTIFIED
R260/A/2	5ml in 0.1	R263/NC/A/2	R263/WAC/A/2
R260/B/2	10ml in 0.2	R263/NC/B/2	R263/WAC/B/2
R260/D/2	25ml in 0.5	R263/NC/D/2	R263/WAC/D/2
R260/E/2	50ml in 1.0	R263/NC/E/2	R263/WAC/E/2
R260/F/2	100ml in 1.0	R263/NC/F/2	R263/WAC/F/2
R260/G/2	250ml in 2.0	R263/NC/G/2	R263/WAC/G/2
R260/H/2	500ml in 5.0	R263/NC/H/2	R263/WAC/H/2
R260/I/2	1000ml in 10.0	R263/NC/I/2	R263/WAC/I/S
R260/J/S	2000ml in 20.0	R263/NC/J/S	R263/WAC/J/S

STOPPERED CYLINDERS

CLASS B	CAPACITY	CLASS A UNCERTIFIED	CLASS A CERTIFIED
R261/A/2	5ml in 0.1	R264/NC/A/2	R264/WAC/A/2
R261/B/2	10ml in 0.2	R264/NC/B/2	R264/WAC/B/2
R261/D/2	25ml in 0.5	R264/NC/D/2	R264/WAC/D/2
R261/E/2	50ml in 1.0	R264/NC/E/2	R264/WAC/E/2
R261/F/2	100ml in 1.0	R264/NC/F/2	R264/WAC/F/2
R261/G/2	250ml in 2.0	R264/NC/G/2	R264/WAC/G/2
R261/H/2	500ml in 5.0	R264/NC/H/2	R264/WAC/H/2
R261/I/S	1000ml in 10.0	R264/NC/I/2	R264/WAC/I/2
R261/J/S	2000ml in 20.0	R264/NC/J/S	R264/WAC/J/S



Class B borosilicate

Class A borosilicate

AMBER STOPPERED CYLINDERS

CLASS A UNCERTIFIED	CAPACITY	CLASS A CERTIFIED
R264/AM/NC/A/2	5ml in 0.1	R264/AM/WAC/A/2
R264/AM/NC/B/2	10ml in 0.2	R264/AM/WAC/B/2
R264/AM/NC/D/2	25ml in 0.5	R264/AM/WAC/D/2
R264/AM/NC/E/2	50ml in 1.0	R264/AM/WAC/E/2
R264/AM/NC/F/2	100ml in 1.0	R264/AM/WAC/F/2
R264/AM/NC/G/2	250ml in 2.0	R264/AM/WAC/G/2
R264/AM/NC/H/2	500ml in 5.0	R264/AM/WAC/H/2
R264/AM/NC/I/2	1000ml in 10.0	R264/AM/WAC/I/2
R264/AM/NC/J/S	2000ml in 20.0	R264/AM/WAC/J/S



MEASURING CYLINDERS

CLASS B - SODA LIME GLASS - ROUND FEET

PLAIN SPOUTED

<u>CAPACITY</u>	<u>OUR REF</u>	<u>PACK QTY</u>
100ml	R249/A/2	2
250ml	R249/B/2	2
500ml	R249/C/2	2
1000ml	R249/D/2	2
2000ml	R249/E/S	1

SPOUTED - CLASS B

BS604 - ISO4788

<u>CAPACITY</u>	<u>OUR REF</u>	<u>PACK QTY</u>
5ml x 0.1	R250/A/2	2
10ml x 0.1	R250/B/2 *	2
10ml x 0.2	R250/C/2	2
25ml x 0.5	R250/D/2	2
50ml x 1.0	R250/E/2	2
100ml x 1.0	R250/F/2	2
250ml x 2.0	R250/G/2	2
500ml x 5.0	R250/H/2	2
1000ml x 10.0	R250/I/2	2
2000ml x 20.0	R250/J/S	1

STOPPERED - CLASS B

BS604 - ISO4788

<u>CAPACITY</u>	<u>OUR REF</u>	<u>PACK QTY</u>
5ml x 0.1	R251/A/2	2
10ml x 0.1	R251/B/2 *	2
10ml x 0.2	R251/C/2	2
25ml x 0.5	R251/D/2	2
50ml x 1.0	R251/E/2	2
100ml x 1.0	R251/F/2	2
250ml x 2.0	R251/G/2	2
500ml x 5.0	R251/H/2	2
1000ml x 10.0	R251/I/2	2
2000ml x 20.0	R251/J/S	1

* not listed in BS604

TWO WAY FIGURED - CLASS B

BS604 - ISO4788

<u>CAPACITY</u>	<u>OUR REF</u>	<u>PACK QTY</u>
5ml x 0.1	R252/A/2	2
10ml x 0.2	R252/B/2	2
25ml x 0.5	R252/C/2	2
50ml x 1.0	R252/D/2	2
100ml x 1.0	R252/E/2	2
250ml x 2.0	R252/F/2	2
500ml x 5.0	R252/G/2	2
1000ml x 10.0	R252/H/2	2