



उत्पादमानुयल
LABORATORY GLASSWARE – SINGLE - VOLUME PIPETTES
IS: 1117:2018/ISO 648: 2008 केअनुसार

PRODUCT MANUAL FOR
LABORATORY GLASSWARE – SINGLE - VOLUME PIPETTES
ACCORDING TO IS 1117:2018/ISO 648: 2008

भारतीय मानक ब्यूरो - विनियम की स्कीम (अनुरूपता मूल्यांकन) के तहत यह उत्पाद मानुयल प्रमाणीकरण के प्रचलन में रीति और पारदर्शिता के सुसंगत सुनिश्चित करने के लिए सभी क्षेत्रीय शाखा कार्यालयों एवं लाइसेंस धारियों द्वारा संदर्भ सामग्री के रूप में उपयोग किया जाएगा। बीआईएस लाइसेंस प्रमाण पत्र प्राप्त करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज़ का उपयोग किया जा सकता है।

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.

1.	उत्पाद Product	:	IS 1117:2018/ ISO 648 : 2008
	शीर्षक Title	:	Laboratory Glassware - Single- Volume Pipettes
	संशोधनसंख्या No. of Amendments	:	Nil
2.	नमूनाकरणदिशानिर्देश Sampling Guidelines:		
a)	कच्चा माल Raw material	:	Single-volume pipettes shall be manufactured from glass of chemical resistance and thermal properties at least to HGB3 in accordance with ISO 719, shall be as free as possible from visible defects and reasonably free from internal stress.
b)	समूहिकरणदिशानिर्देश Grouping guidelines	:	कृप्या ANNEX – A देखें Please refer Annex- A

c)	नमूनेकापरिमाण Sample Size	:	6 Nos
3.	परीक्षणउपकरणोंकीसूची List of Test Equipment	:	कृप्या ANNEX – B देखें Please refer ANNEX – B
4.	निरीक्षणवपरीक्षणस्कीम Scheme of Inspection and Testing	:	कृप्या ANNEX – C देखें Please refer ANNEX – C
5.	एकदिनमेंसंभावितपरीक्षण/Possible tests in a day :		
	All tests except Material as per cl.7.1		
6.	लाइसेन्सकाकार्यक्षेत्र/Scope of the Licence :		
	IS1117:2018/ISO 648:2008 के अनुसार मानक मुहर का उपयोग करने के लिए लाइसेन्स निम्नलिखित कार्यक्षेत्र के लिए प्रदान किया जाता है Licence is granted to use Standard Mark as per IS 1117:2018/ ISO 648 : 2008 with the following scope:		
	Name of the product	Laboratory Glassware - Single- Volume Pipettes	
	Class	A/AS/B	
	Types	i) For which no waiting time is specified (Classes A and B) ii) For which waiting time of 5 s is specified (Class AS)	
	Capacity (in ml)	0.5, 1,2,5,10,20,25,50,100 or any other intermediate capacity between 0.5 to 100 ml	
	Any other aspect required as per the Standard	One-Mark/Two-Mark Pipettes	

**ANNEX A TO THE
PRODUCT MANUAL FOR
LABORATORY GLASSWARE - SINGLE-VOLUME PIPETTES
ACCORDING TO IS 1117:2018**

GROUPING GUIDELINES

IS 1117:2018/ISO 648:2018 classifies two types of Single -Volume Pipettes :-

- 1) Those for which no waiting time is specified (Class A & B)
- 2) Those for which a waiting time of 5s is specified (Class AS)

The following Accuracy classes have also been specified:-

- 1) Class A & AS for the higher grade
- 2) Class B for the lower

Based upon the above classification, the following grouping guidelines shall be considered for the purpose of GoL/Inclusion:-

- 1) One sample of each Accuracy class and Type of a Pipette shall be drawn and tested to cover all the Accuracy classes and Types intended to be covered in the scope of the licence.

However, the above samples shall also include samples of the lowest and highest capacity (in ml) of the Pipettes intended to be covered in the licence.

- 2) If sample of accuracy class A/AS is tested, Class B may also be covered in the scope of the licence.

- 3) Firm shall declare the varieties of the Pipettes they intend to cover in the licence and the scope of licence shall be restricted based on the manufacturing and testing capabilities of the manufacturer.

- 4) During the operation of the licence, samples of each variety covered in the scope of the licence shall be drawn by rotation.

**ANNEX B TO THE
PRODUCT MANUAL FOR
LABORATORY GLASSWARE - SINGLE-VOLUME PIPETTES
ACCORDING TO IS 1117:2018**

List of Testing Equipment

Sl. No.	Tests used in with Clause Reference	Test Equipment
1	Maximum Permissible errors(Cl 6)	1) Weighing balance LC-0.1 mg range 200 g 2) Stop watch 3) Thermometer LC-0.1 C range -10 to -110°C 4) Barometer (L.C.1 kPa) 5) Air conditioner (AC) 6) Hygrometer (Range 35% to 85% ± 5%) 7) Distilled Water 8) Conical Flask with ground joint
2	Material (cl.7.1.)	1) Grade 2 water 2) Hydrochloric Acid 3) Acetone 4) Methyl Red Indicator Solution 5) Distilled Water 6) Analytical Balance 7) Burette 8) Pipette 9) One-Mark Volumetric Flasks 10) Conical Flasks, Boiling Flasks 11) Beaker 12) Weighing Bottle 13) Dessicator 14) Magnet 15) Mortar and Pestle

		16) Sieves (500 μm , 300 μm , 600 μm to 1000 μm) 17) 200 mm diameter Square-aperture sieves 18) Stainless Steel Mesh 19) Ball-mill 20) Ultrasonic Cleaner 21) Drying Oven 22) Thermometer 23) Heating Bath 24) Rubber or Plastic Coated Glass Rod
3	Dimensions (cl.7.4)	1) Steel Scale 2) Ball ended micro meter 3) Vernier Calipers
4	Delivery Time (cl.7.7)	1) Stop watch 2) Distilled water 3) Glass Receiving Vessel
3	Graduation line Cl 8	1) Steel Scale 2) Ball ended micro meter 3) Vernier Calipers
4	Setting of meniscus Cl 9	1) Steel Scale 2) Ball ended micro meter 3) Vernier Calipers 4) Protractor

The above list is indicative only and may not be treated as exhaustive.

**ANNEX C TO THE
PRODUCT MANUAL FOR
LABORATORY GLASSWARE - SINGLE-VOLUME PIPETTES
ACCORDING TO IS 1117:2018**

Scheme of Inspection and Testing

1. LABORATORY - A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.

1.1 The manufacturer shall prepare a calibration plan for the test equipment.

2. TEST RECORDS –The manufacturer shall maintain test records for the tests carried out to establish conformity.

3. LABELLING AND MARKING –The Standard Mark as given in Schedule of the license shall be inscribed on each pipette indelibly/permanently, provided always the laboratory glass ware single-volume pipettes thus marked conforms to all the requirement of the specification.

3.1 Marking and packing shall be done as per the provisions of the Indian Standard. If colour coding is used, it shall comply with the requirements of ISO 1769. In addition, BIS Licence number i.e. CM/L--- and details of BIS website shall be marked permanently and prominently on the external packaging as follows: “For details of BIS certification please visit www.bis.gov.in”

4. CONTROL UNIT – – For the purpose of this scheme, pipettes of the same class and nominal capacity produced in one day shall constitute a control unit.

4.1 On the basis of test results, decision shall be taken regarding conformity of the control unit as a whole to the requirements of the specification.

5. LEVELS OF CONTROL - The tests as indicated in [Table 1](#) and the levels of control specified therein, shall be carried out on the whole production of the factory covered by this scheme and appropriate records and charts maintained in accordance with paragraph 2 above.

5.1 All the production which conforms to the Indian Standard and covered by the licence should be marked with Standard Mark.

6. REJECTIONS – Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act, 2016. A separate record providing the detailed information regarding the rejected control units and mode of their disposal shall be maintained, such material shall in no case be stored together with that conforming to the specification

TABLE 1
LEVELS OF CONTROL

Test Details				Test equipment requirement R:required (or) S: Sub-contracting permitted	Levels of Control		Remarks
Clause	Requirements	Test Method			No. of Samples	Frequency	
		Clause	Reference				
6	Maximum permissible errors	Table I	IS 1117:2018	R	Each Pipette	-	All the samples shall comply With the requirements
7.1	Material (Freedom from Visual defects and internal stress)	7.1	IS 1117:2018	R	-do-	-	-
7.1.1	Material (Chemical resistance and thermal properties of glass)		IS 2303 (Pt1/Sec 1):2012 / ISO 719	S	One	Each consignment	No testing required if the consignment being received is ISI marked or accompanied by a test certificate from supplier showing conformity to the requirements of IS 2303 (Part 1:Section 1):2012/ISO 719.
7.2	Shape	7.2	IS 1117:2018	R	Each Pipette	-	-
7.3	Bulb	7.3	-do-	R	-do-	-	
7.4	Dimensions	Table 2, 3 & 4	-do-	R	Two Pipettes	Every hour	
7.5	Top of pipette	7.5	-do-	R	-do-	-	
7.6	Delivery jet	7.6	-do-	R	-do-		
7.7	Delivery time	7.7	-do-	R	Two	Each control unit	
7.8	Waiting Time	7.8	-do-	R	-do-	-do-	Applicable for class AS pipettes
8	Graduation line	8	-do-	R	-do-	-do-	

9	Setting of the meniscus	5.7 (Annex A)	IS 8729:2018/ ISO 384:2015	R	-do-	-do-	
11	Visibility of graduation line, figures and inscriptions	11	-do-	R	-do-	-do-	

Note 1: Whether test equipment is required or sub-contracting is permitted in column 2 shall be decided by the Bureau and shall be mandatory. Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empanelled by the Bureau.

Note 2: Levels of control given in column 3 are only recommendatory in nature. The manufacturer may define the control unit/batch/lot and submit his own levels of control in column 3 with proper justification to BO head.