



**PRODUCT MANUAL
FOR SPECIFICATION FOR MANUAL BLOW PIPES FOR WELDING AND CUTTING
ACCORDING TO IS 7653:1975**

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.	Product	:	IS 7653:1975
	Title	:	Specification for manual blow pipes for welding and cutting
	No. of Amendments	:	Nil
2.	Sampling Guidelines:		
a)	Raw material	:	Shall conform to Clause 6 of IS 7653:1975
b)	Grouping guidelines	:	Please refer ANNEX –A
c)	Sample Size	:	One
3.	List of Test Equipment	:	Please refer ANNEX –B
4.	Scheme of Inspection and Testing	:	Please refer ANNEX –C
5.	Possible tests in a day :All tests		
6.	Scope of the Licence :		
	Licence is granted to use Standard Mark as per IS 7653:1975 with the following scope:		
	Name of the product	Manual blow pipes	
	Type of Blowpipe	a) Welding blowpipe with welding attachment only b) Combined Welding and Cutting Blowpipes c) Cutting blowpipe	
	Gas pressures and mixing system	a) High pressure/Low Pressure b) Injector type mixer/Mixer without injector action	
	Fuel Gas	a) Acetylene b) Coal Gas c) Hydrogen d) Methane e) LPG	

ANNEX A

Grouping Guidelines

Blowpipes are classified on the basis of type of attachment, gas pressure, mixing system and type of fuel gas for which they are designed.

The following grouping guidelines shall apply for Grant of Licence and Change in Scope of Licence:

- i) Separate samples shall be drawn and tested for blowpipes of each gas pressure and mixing system
- ii) Separate samples shall be drawn and tested for blowpipes designed for each type of fuel gas (If one blowpipe is designed for multiple types of fuel gas then only one sample needs to be drawn to cover those types of fuel gases)
- iii) If sample of Combined Welding and Cutting Blowpipes is drawn and tested, then Welding blowpipe with welding attachment only and Cutting blowpipe can be covered on that basis.

However, scope of licence shall be restricted based on the manufacturing and testing facilities available

During the operation of the licence, samples of all the varieties covered in the scope of licence, shall be drawn in rotation.

ANNEX B

List of Test Equipment

Major test equipment required to test as per the Indian Standard

Sr. No.	Test Equipment	Tests used in with Clause Reference
1	Pressure Gauge	Pneumatic Test Clause 9.1 Cycle Test 9.2, Flame setting CI 9.3, Consumption of gas clause 9.4, Flame adjustment CI 9.5
2	Oxygen pressure gauge	Flame setting CI 9.3, Consumption of gas clause 9.4, Flame adjustment CI 9.5
3	Air Compressor	Pneumatic Test Clause 9.1 Cycle Test 9.2
4	Plug for jet orifice	Pneumatic Test Clause 9.1 Cycle Test 9.2
5	Water Tank	Pneumatic Test Clause 9.1 Cycle Test 9.2
6	Gas flow meter for oxygen	Consumption of gas clause 9.4, Flame setting CI 9.3, Flame adjustment CI 9.5
7	Gas Flow meter for appropriate fuel gas for which the blow pipe is meant	Consumption of gas clause 9.4, Flame setting CI 9.3, Flame adjustment CI 9.5
8	Fan	Stability of flame in wind 9.5.3
9	Anemometer	Stability of flame in wind 9.5.3
10	Standard steel cup of appropriate size as per Table 1	Resistance to back firing and sustained backfiring due to overheating cl 9.6
11	Swivelling holder as per fig 5	Resistance to back firing and sustained backfiring due to overheating cl 9.6
12	Stop watch	Resistance to back firing and sustained backfiring due to overheating cl 9.6
13	Copper test plate as per fig 7 with arrangement to rotate at 10rpm	Sustained backfire test 9.7

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

ANNEX-C
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 equipments.

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

3. PACKING AND MARKING–The Standard Mark, as given in the Schedule of the license shall be stenciled or printed indelibly on each blow pipe or applied in the form of a transfix label on each blow pipe; provided always that the blow pipe so marked conforms to all the requirements of the specification.

3.1 Packing and Marking shall be done as per the requirements of the standard. In addition, the following details shall be marked on each blowpipe or its packaging:

i) Licence No. (CM/L.....)

ii) BIS website details: 'For BIS certification details please visit www.bis.gov.in' .

4. CONTROL UNIT – For the purpose of this scheme all the blow pipes of the same type of attachment, gas pressure, mixing system, and fuel gas manufactured from the same material under similar conditions of production in a day shall constitute a control unit.

5. LEVELS OF CONTROL- The test and inspection as indicated in Table 1 and at the levels of control specified therein, shall be carried out on the whole production of the factory which is covered by this Scheme of testing 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 this license shall be marked with the BIS 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 and shall be made as per relevant provisions of the extant law for disposal of such products. A separate record shall be maintained giving information on quantity and control unit number, relating to all such rejections/defective/sub-standard material of the production not conforming to the requirements of the Specification and the method of its disposal. Such material shall in no case be stored together with that conforming to the Specification. The Standard Mark (if already applied) on rejected material should be defaced.

TABLE 1 LEVELS OF CONTROL
(Cl.5 of Scheme of Inspection and Testing)

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or) S: Sub-contracting permitted	Levels of Control		
Cl.	Requirement	Test Methods			No. of Sample	Frequency	Remarks
		Clause	Reference				
5	Hose Coupling Nipples			R	Each piece	Each piece	
	a)Fitting	5,1	IS 6016:1970				
	b) Marking	5.3,5.4.	IS 7653:1975	R	Each piece	Each piece	
6.1	Material	6.1 to 6.5	IS 7653:1975	S	one	Each consignment	No testing required if the material is accompanied by supplier's test certificate indicating conformity to the requirements.
7	Valve	7	IS 7653:1975	R	Each piece	Each piece	
9.1	Pneumatic Test	Appendix A	IS 7653:1975	R	Each piece	Each piece	
9.2	Cycle test for the gland packing of the gas control valves	9.2	IS 7653:1975	R	One	Once in 3 months	See Note 3
9.3	Flame setting	9.3	IS 7653:1975	R	Each piece	Each piece	See Note 3

9.4	Test for consumption of gases	9.4	IS 7653:1975	S	One	Once in 6 months	See Note 3
9.5	Test for flame adjustment	9.5	IS 7653:1975	S	One	Once in 6 months	See Note 3
9.6	Test for resistance to backfiring and sustained backfiring due to overheating	Appendix B	IS 7653:1975	S	One	Once in 6 months	See Note 3
9.7	Test for resistance to sustained backfiring with partially closed orifice	Appendix C	IS 7653:1975	S	One	Once in 6 months	See Note 3

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 empaneled 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 the Head BO for approval.

Note 3: At the initial stage, one sample from one control unit shall be tested for all the initial approval tests (See Clause 8.1 of IS 7653:1975) and the frequency in Table 1 shall be followed after this sample passes the tests. If the sample fails, this shall be repeated till one sample passes all the initial approval tests. Whenever there is a change in design or material, the sample shall be tested again for all requirement of the standard before it is marked with the Standard Mark.

