



PRODUCT MANUAL FOR HERMETIC COMPRESSORS ACCORDING TO IS 10617:2018

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 10617:2018
	Title	:	HERMETIC COMPRESSORS
	No. of Amendments	:	One
2.	Sampling Guidelines:		
a)	Raw material	:	Nil
b)	Grouping guidelines	:	Please refer ANNEX-A
c)	Sample Siz	:	Three Compressors
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 except Locked Rotor Test (Cl. 8), Resistance to Rusting (Cl. 9)
6.	Scope of the Licence :		
	“Licence is granted to use Standard Mark as per IS 10617:2018 with the following scope: Hermetic Compressor Category (LBP, CBP/MBP, HBP); Cooling capacity upto and including ----- Single phase/ Three phase		

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ANNEX A**Grouping Guidelines**

1. The parameters given below shall be considered for grouping of Hermetic Compressors as per IS 10617:2018 for GoL/CSoL:

Category	(i) Low back pressure (LBP) (ii) Commercial back pressure (CBP) / Medium back pressure (MBP) (iii) High back pressure (HBP)
No. of phase	(i)Single phase (ii)Three phase

2. The highest cooling capacity from each category (LBP/MBP/HBP) of Hermetic Compressors shall be tested for single phase and three phase separately to cover the entire range of Hermetic Compressor in that particular category.
3. The Firm shall declare the varieties of Hermetic Compressors intended to be covered in the Licence. The Scope of Licence may be restricted based on the Manufacturing and Testing capabilities of the Manufacturer.
4. During the operation of the Licence, BO shall ensure that all the varieties covered in the Licence are tested in rotation, to the extent possible.

Annex-B
List of Test Equipment

Major test equipment required to test as per the Indian Standard

Sl. No.	Tests used in with clause reference	Test Equipment
1	Compressor Capacity Rating Test Cl. 5.1 and Cl. 6.1.1	a) Calorimeter as mentioned in IS 5111
2	Startability Test as per Cl. 6.1.2	a) Thermocouple b) Pressure Gauge c) Voltmeter
3	Locked Rotor Test as per Cl. 6.1.3 and Cl. 8	a) Thermocouple b) Pressure Gauge c) Voltmeter d) Power Multimeter e) Arrangement for counting no.of cycles f) High Voltage Tester g) Stopwatch
4	High Voltage Test as per Cl. 6.1.4, 6.3 (a) and Leakage Current Test per Cl. 6.1.5	a) High Voltage Tester b) Power Multimeter c) Stopwatch
5	Pneumatic Test of Shell as per Cl. 6.3(c) and Holding Charge as per Cl. 6.2	a) Air compressor b) Dry air/ Nitrogen/Helium c) Pressure Gauge d) Test bath
6	Bursting Test as per Cl. 6.1.7	a) Air compressor b) Water Pump c) Pressure Gauge d) Temperature Gauge e) Burst Testing Equipments
7	Running Overload Test as per Cl. 7	a) Calorimeter or Test Bench b) Thermocouple c) Pressure Gauge d) Voltmeter e) Power multimeter
8	Resistance to Rusting, Cl. 9	a) Dry film thickness gauge b) Carbide-tipped scribe or multi blade scribing tool, Tape as per Cl. B-2.2 of IS 10617 c) Chemicals as per Cl. B-2.3 of IS 10617

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 equipment.

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

3. LABELLING AND MARKING – As per the requirements of IS 10617: 2018.

4. LEVELS OF CONTROL - The tests as indicated in column 1 of [Table 1](#) and the levels of control in column 3 of [Table 1](#), shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2 above.

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

5. 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.

Table 1

TABLE 1

(1)				(2)	(3)		
Test Details				Test equipment requirement	Levels of Control		
Cl.	Requirement	Test Methods		R: required (or) S: Sub-contracting permitted	No. of Sample	Frequency	Remarks
		Clause	Reference				
TYPE TESTS							
6.1.1	Compressor Performance Test	6.1.1	IS 10617	S	Two units of identical type and capacity from each rating produced in a year		In case of failure, all the units produced subsequently shall be tested till twenty consecutive samples pass and thereafter the original frequency may be restored.
6.1.2	Startability Test	6.1.2	IS 10617	S			
6.1.3	Locked Rotor Test with Accessories	6.1.3	IS 10617	S			
6.1.4	High Voltage Test	6.1.4	IS 10617	S			
6.1.5	Leakage Current	6.1.5	IS 10617 IS 302 -1	S			
6.1.7	Bursting Test	6.1.7	IS 10617	S			
6.2	Holding Charge	6.2	IS 10617	R			

ROUTINE TESTS						
6.3(a)	High voltage Test	6.3(a)	IS 10617	R	Each Compressor	---
6.3(c)	Shell leakage Test	6.3(c)	IS 10617			
OTHER TESTS						
7	Running Overload Test	7	IS 10617	S	Two units of identical type and capacity from each rating produced in a year	---
8	Locked Rotor Test	10	IS 10617	S	Two units of identical type and capacity from each rating produced once in five years or whenever there is change in design, whichever is earlier	---
9	Resistance to Rusting Test	9 Annex B	IS 10617 ISO 2808 ISO 2409 ISO 2808	R	Each consignment of ferrous parts.	---

NOTE-1: Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empanelled by the Bureau

NOTE-2: The control unit and levels of control given in column 3 are obligatory in nature to which the licensee shall comply with.