Si'Tarc Scientific And industrial Testing and Research Centre, Coimbatore-641006	**ELECTRICAL TESTING LABORATORY** SERVICE REQUEST FORM IS 12615 : 2018 – LINE OPERATED THREE PHASE A.C. MOTORS (IE CODE) "EFFICIENCY CLASSES AND PERFORMANCE SPECIFICATION" (THIRD REVISION & INCLUDING AMENDMENT 1)	Code No.

Ref. Standard	**IS 12615 : 2018**	# Rated Output	kW	# Rated Voltage	V ±10%
# Max. Full Load Current	A	# No. of Poles	**2 / 4 / 6 / 8**	# Rated Frequency	50 Hz ± 5%
# Min. Full load Speed	rpm	# Class of insulation	B / F / H	Reference Temp. for Load Test	_____°C (Ref. Temp. for Load Test as per Table 4 of IS 15999 (P2/S1):2011
# Efficiency Class (IE Code)	IE 2* / IE 3 / IE4	Rated Efficiency	%	# Type of Duty	S_1 – Continuous S_2 - _____mins S_3 - _____S ON@Load _____S@OFF S_6 - _____S ON@Load _____S@no load
		Service Factor	>1.0 (Short Time Duty) S_2 - _____ mins.		
# Winding Connection	STAR / DELTA / STAR-DELTA	Power Factor	cos Ø	Rated Torque	_____N-m / kg-m
		Slip @Rated O/P @50 Hz	%		
Locked Rotor Current	Amps % of FLC	# Locked Rotor Torque	N-m / kg-m % FLT	Pull-Up Torque	N-m / kg-m % FLT
# Type of motor & marking	LINE OPERATED 3 ~ A.C. MOTOR Marked / Not Marked	Temperature Rise Limit	80 °C Max. @40°C Amb. Temp. for Class B or Class F Insulation	Vibration Severity	mm/s
Noise Level	dB	# Type of Mounting		# Type of Enclosure	
Frame Size / Number		Degree of protection as per IS/IEC 60034-5	IP _____	# Method of Cooling	IC _____
# Operating Altitude Max.	m	Ambient Temp. Max.	+ °C	Ambient Temp. Min.	- °C
# Type / Model / Machine Code			# Manufac. Sl. No. or Identification Mark		
Name of the Manufacturer or Trade Mark			Type of Thermo Couple	J / K / PT 100	

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Name and Address of the Customer in Test Report	Ref Doc. Details :
Name and Address of the Customer in Invoice	Contact Person : Phone No.
MIN No.	Date
For Si'Tarc Date: Sign & Name	For Customer Date: Sign & Name

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# Thermo Couple	Provided / Not Provided	Year of Manufactured		# Provision of Rating Plate	Affixed / Not Affixed
Connection Diagram as per IS/IEC 60034-8	Provided / Not Provided	Direction of Rotation (if Geared Motor)	CWD / CCWD	Brake Supply	Inbuilt or _____V AC / DC
# Terminal markings as per IS/IEC 60034-8	Provided / Not Provided	# Earthing as per IS 15999 / IEC 60034-1	Provided / Not Provided	Earthing Symbol or Legend as per IS 15999 / IEC 60034-1	Provided / Not Provided
Approx. Total Mass of the Machine in kgs		BIS Mark with CM/L No. if any		No. of Rating Plate(s) Provided	

*Test as per assigned loss method (Cl. 8.2.2.5.3) is applied for "IE 2 Motors" only.

TEST REQUIREMENTS:-

Sl. No.	Name of the test Clause No.	Type of test	Test Reqt.	Sl. No.	Name of the test Clause No.	Type of test	Test Reqt.
1.	General (Cl.Nos. 1 to 11)	R/T		2.	Stator Winding Resistance measurement test (Cl. 16.1.2)	R/T	
3.	Insulation Resistance Test (Cl.16.1.1)	R		4.	High voltage Test (Cl.16.1.6)	R	
5.	No load Test (Cl.16.1.3)	R/T		6.	Reduced Voltage Running Up Test at No Load (Cl.16.1.5)	R	
7.	Full load Test (Cl.16.2.3)	T		8.	Momentary overload test (Cl.16.2.5)	T	
9.	Locked Rotor Test (Cl.16.1.4 & 16.2.2)	R/T		10.	Pull up torque (Cl.12.2)		
11.	Temperature rise test (Cl.16.2.4)	T		12.	Dimension Tests (Cl.16.2.1)	T	
13.	Vibration Severity test (C16.3.1)	O		14.	Noise levels Test (Cl.16.3.2)	O	
15.	Test for Degree of protection (IP) (Cl.16.3.3)	O		16.	Over speed Test (Cl.16.3.4)	O	
17.	Temp rise test at limiting values of V & Freq. variation (Cl.16.3.5)	O		18.	Part load tests (25 – 150%)	O	

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SELECTION OF TEST METHOD FOR LOAD TEST AS PER IS 15999(Part2/Sec 1) : 2011	
1) Direct Torque Measurement up to 1 kW only (Cl. 8.1.1)	
2) Summation of Losses Method with Load Test & P_{LL} from assigned value (Cl. 8.2.2.5.3) **And it is applied for "IE 2 Motors" only as per Cl. 15.4.2 Note of IS 12615 : 2018 - A1.**	
3) Summation of Losses Method with Load Test & P_{LL} determined from residual loss (Cl. 8.2.2.5.1) – For Three Phase Machines >1 kW up to 150 kW. (i.e., This method is applicable if thermocouples were provided to measure live hot winding temperature)	

Abbreviations:-
*Y- Required, NR – Not Required, ND – Not Described, T – Type test, A – Acceptance test, R – Routine test, O – Optional test Put "Y" or "NR "for test requirements, For BIS test requirement attach a Performance declared values for each sample in an authenticated separate sheet. The above details are to be furnished by the customer at the time of submitting the samples for testing.

Notes:-

1. Customer should furnish the required Voltage – Frequency combination for conducting the Temp rise test at limiting values (V & Freq. variation).
2. For non-standard frame or frame sizes or specially customized frames, customer should make the necessary mechanical arrangements like "L" Plates, Couplings, keys etc,
3. For non-standard frame or frame sizes or specially customized dimensions, customer should declare the tolerance values with suitable drawing or specification sheets at the time of submitting the sample for test.
4. For Load Tests, the external seals that are accessible from the outside shall be removed by the customer itself at the time of submitting the sample. And for IP Tests, the seals shall be fixed again by customer itself.
5. For IP Tests, customer should submit the Motor along with proper mechanical arrangements. For Example, for IP 55 or 65, BS 3 * 8 nipple – arrangement shall be provided by customer self.
6. The auxiliary devices such as shaft seals, external fans, mechanical brakes, back-stops & unidirectional bearings, speed sensors, tacho-generators etc should be removed before submitting the motor for tests by customer.
7. Customer should submit the motor with original cooling without any auxiliary devices provided.
8. Customer should submit the motor after removing the electro-mechanical brake.
9. Test as per assigned loss method (Cl. 8.2.2.5.3) is applied for "IE 2 Motors" only as per Cl. 15.4.2-

Note:

1) Kindly issue separate SRF Form for each sample.
2) The tests marked with an * are not accredited by NABL.
3) Marked with# are Mandatory Fields.

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