

STANDARD QUALITY PLAN											
 Ranipet			QUALITY DEPARTMENT M/S BHEL RANIPET TAMIL NADU-632 406				ITEM/SUB SYSTEM:				
							STANDARD QUALITY PLAN FOR				
							ACTUATOR WITH GEAR BOXES				
Sl no	Component & operation	Characteristics	Class	Type of Check	Quantum of Check	Reference Documents	Acceptance Norms	Format Of Records	Doc. Ref. No	QPE:833	Remarks
1	2	3	4	5	6	7	8	9	Rev. No	01	
									Date	27 09 2014	
									Page No	Page 1 of 6	
									Agency		
									10		
									M B		

1. Raw Material									
1.Bar stock		Chemical Composition	Major	Chemical analysis	One/Heat 100%	Vendor Specification/ Drawing	Vendor Specification/ Drawing	Manufacturing TC's	P V
		Internal Flaw (for Forged shaft only)		Ultrasonic					
2. Components/Manufacturing Parts									
1.Actuator Housing		Chemical Composition	Major	Chemical analysis	One/Heat 100%	Vendor Specification/ Drawing	Vendor Specification/ Drawing	Manufacturing TC's	P V
2.Worm Wheel		Hardness		Mechanic Measurem	One/Heat 100%				
3.Bearin g flange		Physical properties		Mechanical Visual	One/Heat 100%				
4.Cluth ring		1. Tensile strength			One/Heat				
5.Out put drive		2.surface defects			One/Heat				
6. Hallow drive shaft		3.Elgoation							
7.Pinion and Gear									
8.Worm Shaft									
9.drive shaft									
10.drive sleeve									
11.Gear Case									
12.Base									

Prepared By	CH. ANIL SINGH	Reviewed By	P.H. Krishnan	Approved By	Dr. S. Srinivasan
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Rev. No 01

Page No Page 2 of 6

Format Of Records	Agency 10		Remarks 11
	M	B	
9			

2.1. Motor

3. IR Value
4 Thermo Switch

4. Thermo Switch

6. Mounting Dimensions

7.Name Plate

8. Surface defects

9. Stator Resistance

Measurement

10.locked Rotor test

11.H.V Test for 2KV for 1

Min

12. Type test reports*

Dimensions

1

Continuity

and make/Breaker

1000 JOURNAL OF CLIMATE

Resistance value

[illegible]

Resistance value

10

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75

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Engineer Gr. I / QA

91 RANIPET - 632 406

Approved By	<i>[Signature]</i>
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**QUALITY
DEPARTMENT
M/S BHEL RANIPET
TAMIL NADU-632 406**

STANDARD QUALITY PLAN

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Page No Page 3 of 6

Format Of Agency Remarks
Of 10 B 11
Records

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1	2	3	4	5	6	7	8	9	M	B

2.6	Electronic Position Transmitter(As applicable)	Output Measurement	Major	Electrical	1% AQL	Vendor specification/ Drawings	Vendor specification / Drawings	TCS	P	V	
2.7	Bearings make SKF, NBC Fag, ZKL	1.Dimension 2.Surface Defects	Critical Major	Measureme nt Visual	6% AQL 100%	Vendor specification/ Drawings No Surface Defects	Vendor specification/ Drawings No Surface Defects	TCS	P	V	
2.8	"O" Ring/Quad Ring	1.Dimension 2.Shore Hardness 3. Surface Defects	Critical Major Major	Measureme nt Measure Visual	6% AQL Test Piec 100%	Vendor Specification/ Drawings IS9975 No Surface Defects	Vendor specification / Drawings IS9975 No Surface Defects	TCS	P	V	
3.	In process										
3.1	Actuator Assemble	1. Visual 2.RPM Check 3.Yoke Assemble 4.Manual operation check	Critical	Visual Measurement Mechanical Measurement Visual	100%	Vendor specification /Drawings	Vendor specification /Drawings	TCS	P	V	

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Page No	Page 5 of
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Format Of Records	Agency		Remarks
	10	B	
9	M		

Remarks	11
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Final Inspection Actuator (Contd)	14.Grease leakage Test 15.Visual 16.Electronic Position Transmitter 17.Painting 18.Mounting Dimensions 19. Availability of Bushing for coupling (If applicable)	Critical	Physical & Electrical	Manufacturer 100% Customer 10%	BHEL approved Drawing & Data Sheet	BHEL approved Drawing & Data Sheet	TCS & IR	P	W	
4.1 Actuator with Integral stator (If applicable)	24 V DC output Burn in Test (48 hours)** Functional Check	Critical	Electrical Electrical Visual	2% AQL	BHEL Approved Data sheet & Drawings	BHEL approved Drawing & Data Sheet	TCS & IR	P P P	W V V	** At 50 C, Epac module power on condition
4.2 Gear box	Gear Speed Ratio No Load Running Grease Leakage Tightness of Bolts	Critical	Visual Visual Visual Visual	One / batch 100% Random	BHEL Approved Data sheet & Drawings	BHEL approved Drawing & Data Sheet	TCS & IR	P	W	
4.3 Actuator with Gear boxes Combination	1.T Type test(Load Test)	Major	Physical	No After Major Design Modification	BHEL Apprd Data sheet & Drawings Manufacturer Standard	BHEL Apprd Data sheet & Drawings Manufacturer Standard	TCS & IR	P	W	Type test reports should not be older than five years from the date of enquiry

Reviewed By

24/10/2018

Approved By

Quin 30/09/2004

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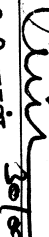
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दीए जाइएल, दीएली, रानीपट / BHEL, BAF, Raniapatt...

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1	2	3	4	5	6	7	8	9	Page No		Page 6 of 6
Agency 10 B											

4.4	Type test on assembled actuator with Gear box	1.Degree of Protection 2.Life Cycle Test report	Major	Testing	1.No After Major Design Modification	IEC60529/I S 13947	IEC60529/IS 13947	TCs & IR	P	V	Type test reports should not be older than five years from the date of enquiry
5.0	Packing Inspection	1.Name Plate 2.Painting 3.Rust prevention 4.Accessories	Major	Physical & Visual	100%	Packing slip	Packing Slip Standard	Packing slip	P	--	Packing drawing/spe c get one time approval of BHEL Ranipet

Note: The Validity of type test reports should not be older than five years from the date of enquiry.
Legend: P=Perform, V=Verification of documents, W=Witness, TC= Test certificate, IR= Inspection Report, M=Manufacturer, B=BHEL/BHEL TPI

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