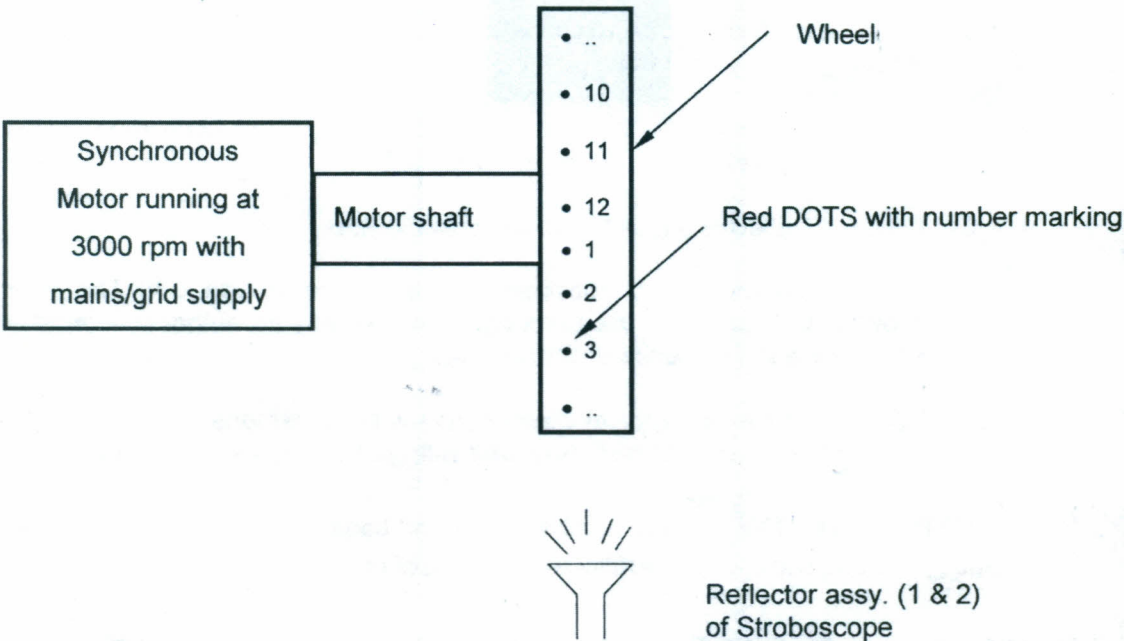
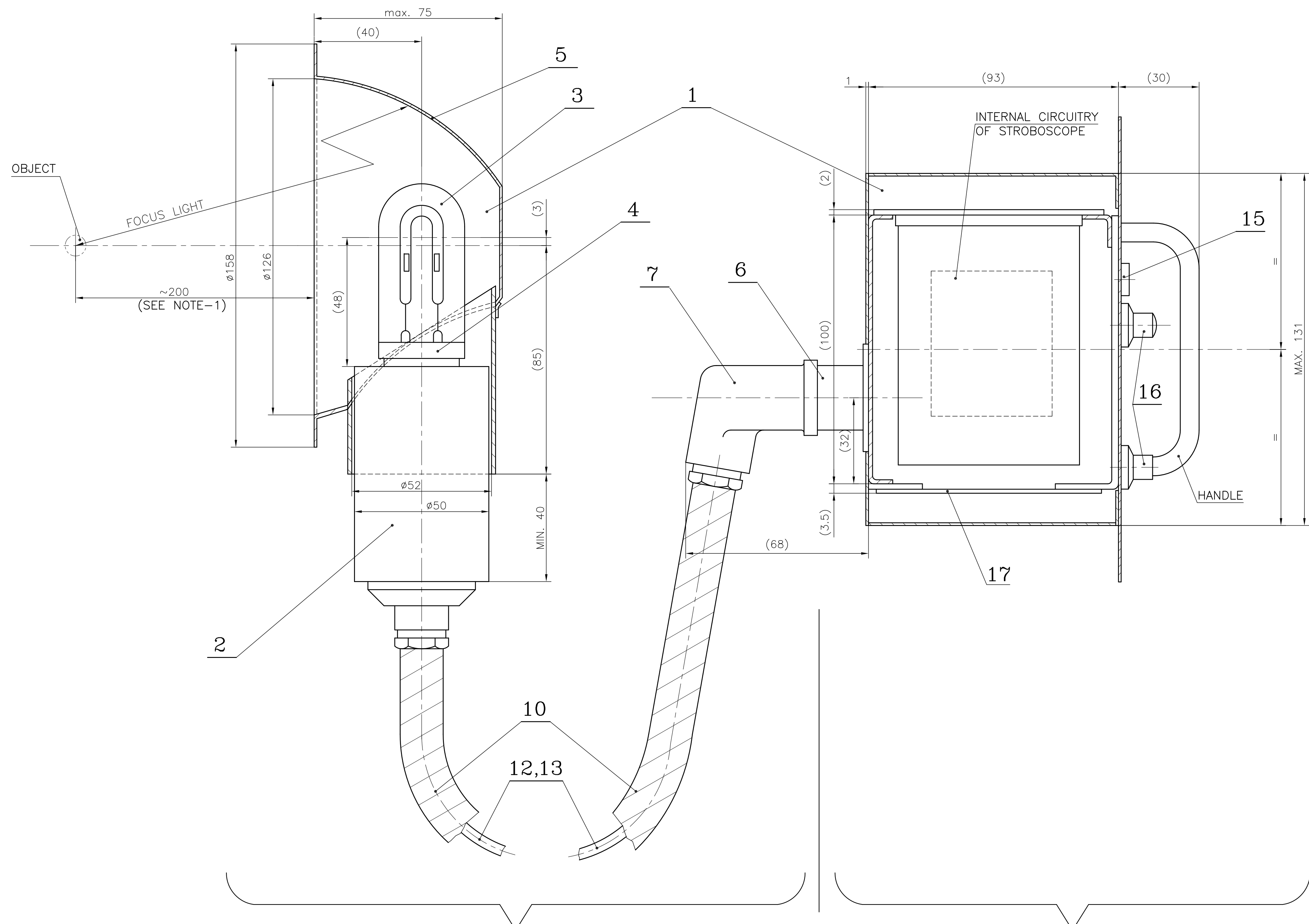


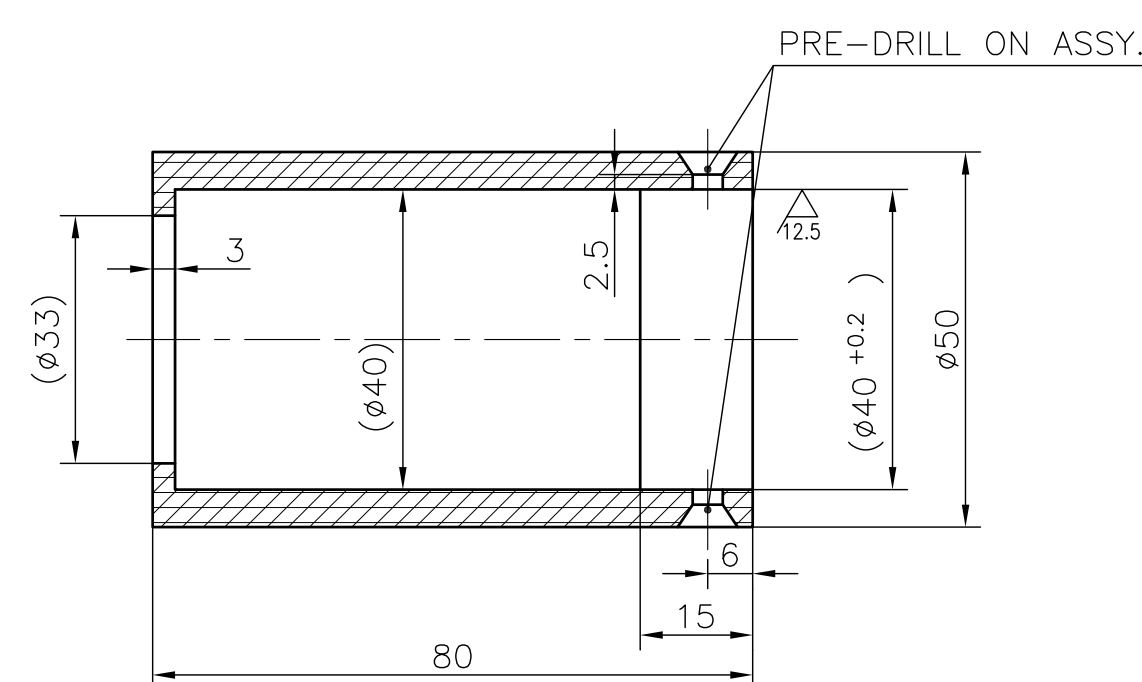
दिनांक एवं हस्ताक्षर SIGN & DATE SUPERSEDES INVENTORY NO. मासिक सूची संख्या अधिकतम १००		उत्पाद क्रय विनिर्देश (हीप : हरिद्वार) Product Purchase Specification (HEEP: Haridwar)		TG60561 पृष्ठ 3 का 1 Page 1 of 3																										
		Based on own experience																												
COPYRIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company.	STROBOSCOPE																													
	1.0 APPLICATION: The Stroboscope is used for periodic monitoring and identification of blown fuses of rotating Diode wheel assembly of Brushless Exciters (rotating at 3000rpm). 2.0 PRINCIPLE OF OPERATION: If periodic high intensity light-flashes illuminate a fuse on rotating wheel, the frequency of which is multiple of the speed of the wheel, then the fuse picture would appear to be stationary. The Stroboscope is based on this principle. It is operated from 220-250V 50Hz supply derived from the grid / mains power supply / generator output itself. 3.0 TECHNICAL REQUIREMENTS: 3.1 The external dimensions of Stroboscope (Control unit and Reflector assy.) shall be as per drawing. 3.2 The stroboscope shall consist of Control unit and Reflector assembly as per drawing. Spare Lamps and Fuses shall also be as called in the drawing. 3.3 The front of Control unit of Stroboscope shall have controlling knobs for Forward and Reverse rotation of picture, switch/ push-buttons for selecting both of the Reflector assembly, and ON/OFF switch/ push-buttons on its front panel. Sockets for Reflector assembly and mains supply, and Fuse shall be at the back. 3.4 The technical parameters of the stroboscope unit is as follows :- Input supply : 220-250V 50Hz Power : Approx. 10 watts (For reference) Flash duration : 7 μ sec (For reference) Flash period : Approx. 20 m sec (corresponding to Rotation of Diode Wheel 3000 rpm) Scan time : 30 Sec approx. Auto Off Setting : 90 Sec approx. 3.5 All the components shall be of reputed make.																													
दिनांक एवं हस्ताक्षर SIGN & DATE 20/02/16	<table border="1"> <tr> <td></td> <td></td> <td></td> <td>नाम NAME</td> <td>दिनांक एवं हस्ताक्षर SIGNATURE & DATE</td> </tr> <tr> <td>PSC MEMBER</td> <td>R. KUMAR</td> <td>16-2-16</td> <td>अनुवादक TRANSLATED BY</td> <td></td> </tr> <tr> <td>TSX</td> <td>L. Kumar</td> <td>16.02.16</td> <td>निर्माणकर्ता WORKED BY</td> <td>Reena Maurya</td> </tr> <tr> <td>QAX</td> <td>S.K. Chauhan</td> <td>16.02.16</td> <td>जांचकर्ता CHECKED BY</td> <td>S S Meena</td> </tr> <tr> <td>महामंत्र विभाग AGREED DEPT.</td> <td>नाम NAME</td> <td>दिनांक एवं हस्ताक्षर DATE & SIGNATURE</td> <td>पर्यवेक्षणकर्ता SUPERVISED BY</td> <td>Anupam Sharma</td> </tr> </table>								नाम NAME	दिनांक एवं हस्ताक्षर SIGNATURE & DATE	PSC MEMBER	R. KUMAR	16-2-16	अनुवादक TRANSLATED BY		TSX	L. Kumar	16.02.16	निर्माणकर्ता WORKED BY	Reena Maurya	QAX	S.K. Chauhan	16.02.16	जांचकर्ता CHECKED BY	S S Meena	महामंत्र विभाग AGREED DEPT.	नाम NAME	दिनांक एवं हस्ताक्षर DATE & SIGNATURE	पर्यवेक्षणकर्ता SUPERVISED BY	Anupam Sharma
				नाम NAME	दिनांक एवं हस्ताक्षर SIGNATURE & DATE																									
PSC MEMBER	R. KUMAR	16-2-16	अनुवादक TRANSLATED BY																											
TSX	L. Kumar	16.02.16	निर्माणकर्ता WORKED BY	Reena Maurya																										
QAX	S.K. Chauhan	16.02.16	जांचकर्ता CHECKED BY	S S Meena																										
महामंत्र विभाग AGREED DEPT.	नाम NAME	दिनांक एवं हस्ताक्षर DATE & SIGNATURE	पर्यवेक्षणकर्ता SUPERVISED BY	Anupam Sharma																										
मासिक सूची संख्या INVENTORY NO. P-6248	<table border="1"> <tr> <td colspan="3"> स्वीकृति APPROVED : A K MALHOTRA (AGM/EME) </td> <td colspan="2"> Gr. NO. 8.10 </td> </tr> <tr> <td>REV.NO. 01</td> <td></td> <td></td> <td>निर्माण PREPARED : EME</td> <td>आरी ISSUED : TSX</td> </tr> <tr> <td>DL.15.02.16</td> <td></td> <td></td> <td colspan="3"> दिनांक DATE : 08.02.2002 </td> </tr> <tr> <td>CHANGE ADVICE No. TGE-16-12</td> <td></td> <td></td> <td colspan="3"></td> </tr> </table>					स्वीकृति APPROVED : A K MALHOTRA (AGM/EME)			Gr. NO. 8.10		REV.NO. 01			निर्माण PREPARED : EME	आरी ISSUED : TSX	DL.15.02.16			दिनांक DATE : 08.02.2002			CHANGE ADVICE No. TGE-16-12								
	स्वीकृति APPROVED : A K MALHOTRA (AGM/EME)			Gr. NO. 8.10																										
REV.NO. 01			निर्माण PREPARED : EME	आरी ISSUED : TSX																										
DL.15.02.16			दिनांक DATE : 08.02.2002																											
CHANGE ADVICE No. TGE-16-12																														

SIGN & DATE 	SUPERSEDES INVENTORY NO सामग्री सूची संख्या को प्रतिस्थापित करता है	COPYRIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company.	REV. NO. 01	निर्माणकर्ता WORKED BY Reena	जांचकर्ता CHECKED BY S S Meena	उत्पाद क्रय विनिर्देश (हीप : हरिद्वार) Product Purchase Specification (HEEP: Haridwar)	TG60561 पृष्ठ 3 का 2 Page 2 Of 3
						सामग्री सूची संख्या INVENTORY NO P-6248	सामग्री सूची संख्या INVENTORY NO P-6248
4.0 INSPECTION: The inspection of Stroboscope shall be carried out as follows to ensure its performance. Also refer the relevant drawing for any other specific requirements. 4.1 Visual and dimensional examination of Stroboscope's Control unit and Reflector assemblies as per drawing. 4.2 The front and back of Control unit of Stroboscope for all controlling knobs/ switches and plug-sockets as described in clause 3.3 4.3 Focus of Reflector assembly as per drawing note. 4.4 The performance of Stroboscope as defined in clause 3.4. The supplier shall provide all facilities to the purchaser's Inspector / its authorized representative to witness the performance of Stroboscope. 4.5 Operational Performance of Stroboscope is to be demonstrated with a Synchronous motor rotating at 3000 rpm, operated with grid supply as per annexure-I. 5.0 ACCEPTANCE: The material shall be accepted based on the inspection report in line of clause 4.0 and compliance certificate of the supplier. 6.0 PACKING & MARKING: The stroboscope shall be suitably packed to prevent damage during transit. Each package shall bear the following information: - BHEL Order No. - Spec. no. TG60561, Drg no., Code no. - Quantity of Spare Lamp and Fuse - Supplier's Name 7.0 DOCUMENTS: The supplier shall furnish two copies of user manual in English language along with supply giving operational guidelines. 8.0 REJECTION: The purchaser reserves the right to reject any consignment in part or whole if it does not meet all or any of the requirements specified in this standard and drawing. 9.0 CROSS REFERRED STANDARDS: Nil.							

सिग्नेचर एवं डेटा SIGN & DATE		उत्पाद क्रय विनिर्देश (हीप : हरिद्वार) Product Purchase Specification (HEEP: Haridwar)		TG60561	
				पृष्ठ 3 का 3 Page 3 Of 3	
सुपरसेडिन्स INVENTORY NO. मासकी सूची नम्बर को संशोधित करना है	<u>Annexure-I</u>  Performance Testing scheme (Typical)				
Note: During performance testing, following functions of Stroboscope to be checked- Function-1: The marking number should appear stationary. Function-2: When pressing Forward button, marking number should appear moving in Forward direction. Function-3: When pressing Reverse button, marking number should appear moving in Reverse direction.					
मासकी सूची नम्बर INVENTORY NO. P-6248	REV. No. 01	निर्माणकर्ता WORKED BY Reena		15.2.16	
		जांचकर्ता CHECKED BY SS Meena		15.2.16	



CONTROL UNIT



TECHNICAL REQUIREMENTS:—

1. STROBOSCOPE, TYPE LX5-30/36-2 OR EQUIVALENT
VOLTAGE: 220-250 V AC, 50 HZ.
FREQUENCY: : 3000 MIN⁻¹ (TAKEN FROM GRID SUPPLY)
2. ITEMS LISTED IN TABLE ARE ONLY FOR REFERENCE, SUPPLIERS CAN USE ITEMS OF OTHER REPUTED MAKE AND TYPE ALSO.
3. ALL STEEL SHEET ITEMS SHALL BE PAINTED WITH PRIMER AND EPOXY PAINT (GRAY COLOR).
4. FRONT PANEL INCLUDING 2 NO. HANDLES SHALL BE OF BRIGHT STEEL SHEET OR ALUMINUM SHEET ANODIZED (UNPAINTED).
5. OVERALL DESIGN OF STROBOSCOPE, SPECIALLY FRONT PANEL SHALL BE AESTHETICALLY SOUND.
6. DIMENSIONS IN BRACKETS ARE FOR REFERENCE ONLY AND TO BE DECIDED BY VENDOR.
7. TWO NO. FLASH LAMP (IT.3) AND TWO NO. FUSE (IT.14) SHALL BE SUPPLIED AS SPARE.
8. REFLECTOR ASSY. CONSISTS OF IT.2 TO 5, 7, 10, 12 & 13 AND CONTROL UNIT CONSISTS OF IT.6, 8 TO 11 & 14 TO 17.

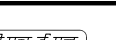
1. FLASH LAMP AND REFLECTOR SHOULD BE SUITABLE TO FOCUS ON AN OBJECT AT APPROX. DISTANCE OF 200 MM AS SHOWN.

1. OPERATION AND MAINTENANCE MANUAL SHOWING DESCRIPTION OF DEVICE AND ITS FEATURES.
2. WIRING DIAGRAM WITH CONDUCTOR IDENTIFICATION, PRINTABLE
3. LIST OF SPARE PARTS.

1. REFER DRAWINGS OF FUSE MONITORING & ELECTRICAL INSTALLATION

017	SUPPORT PLATE	008	MATERIAL: MILD STEEL
016	SWITCH	006	TYPE: ZF 2U OR EQUIVALENT
015	CONTROL LAMP	001	TYPE: 169507.125/15 OR EQUIVALENT
014	FUSE 250V, 0.5A (APPROX.)	003	TYPE: 5132-40 OR EQUIVALENT (INCLUDING 2 NO. SPARES)
013	CABLE 4X0.5 MM2 (PTFE INSULATION)	3.2m	
012	CABLE 4X0.5 MM2 (PTFE INSULATION)	3.2m	
011	POWER SUPPLY CABLE, PTFE INSUL. 3X1.5 MM2, L=3M	001	PTFE INSULATED
010	PROTECTING HOSE, L=3 M	003	TYPE: ASPOR Ø14 OR EQUIVALENT
009	PLUG	001	TYPE: HN 3A STI (OF HARTING OR EQUIVALENT)
008	SOCKET	001	TYPE: HN 3A BU (OF HARTING OR EQUIVALENT)
007	PLUG	002	TYPE: HN 3A STI (OF HARTING OR EQUIVALENT)
006	SOCKET	002	TYPE: HN 3A BU (OF HARTING OR EQUIVALENT)
005	REFLECTOR	002	SEE NOTE-1
004	LIGHT SOCKET (SUITABLE TO IT.3)	002	TYPE: RF037-3009 (OF HARTING OR EQUIVALENT)
003	FLASH LAMP	004	INCLUDES 2 NO. SPARES
002	INSULATING TUBE MATERIAL: HP. TUBE DIN 40607	002	STROBOSCOPE SUPPLIER HAS TO PROCURE & FIT THIS ITEM ON ASSEMBLY
001	STROBOSCOPE	001	CONSISTING OF ITEMS 002 TO 017
ITEM NO.	DESIGNATION	QTY.	REMARKS

03
SUPERSEDES THE OLD
DRG. UNDER THE SAME
NO. TGE-16-F0049

CBOM NO. 91440601000		STATUS OF DRG. OR		TYPE OF PRODUCT OR		BRUSHLESS EXCITER FOR 500MW TG																														
APPROVED EMT		SIGN SONI KC		DATE -SD- 1.7.81		NAME OF CUSTOMER/ PROJECT																														
GRADE OF UNTOL. DIM.: M/CNO - 446/CH/AA 0230208		REV. DATE WELDING - 446/CH/AA621104		REV. DATE GAS CUTTING - 446/AA621101		 BHARAT HEAVY ELECTRICALS LTD. HARDWAR		<table><tr><td>DRN</td><td>NAME</td><td>SIGN</td><td>DATE</td><td>NO OF</td></tr><tr><td>Y/C</td><td>GANG</td><td>-SD-</td><td>10.05.81</td><td>VAR.</td></tr><tr><td>CH/KSR/K/KW</td><td>-SD-</td><td>03.07.81</td><td></td><td></td></tr></table>		DRN	NAME	SIGN	DATE	NO OF	Y/C	GANG	-SD-	10.05.81	VAR.	CH/KSR/K/KW	-SD-	03.07.81			<table><tr><td>APD</td><td>NAME</td><td>SIGN</td><td>DATE</td><td>NO OF</td></tr><tr><td>NP GUPTA</td><td>-SD-</td><td>04.07.81</td><td></td><td></td></tr></table>		APD	NAME	SIGN	DATE	NO OF	NP GUPTA	-SD-	04.07.81		
DRN	NAME	SIGN	DATE	NO OF																																
Y/C	GANG	-SD-	10.05.81	VAR.																																
CH/KSR/K/KW	-SD-	03.07.81																																		
APD	NAME	SIGN	DATE	NO OF																																
NP GUPTA	-SD-	04.07.81																																		
REV. DATE 30.2.81		REV. DATE 28.8.15		REV. DATE 28.8.15		DEPT. TGE				SCALE 1:1																										
REV. DATE 30.2.81		REV. DATE 28.8.15		REV. DATE 28.8.15		CODE 4133		NTS		WEIGHT(KG.) 5.100																										
CHANGES AS PER C/A NO. F-0049		DRG. REVIEWED IN GENERAL AND DIGITIZED.		C/A NO. TGE-15-F0254		TITLE STROBOSCOPE (ORDERING DRG.)		<table><tr><td>1</td><td>2</td><td>3</td></tr><tr><td></td><td></td><td></td></tr></table>		1	2	3				DRAWING NO. 01440601000																				
1	2	3																																		
5		4		3		SHEET NO. 01		NO. OF SHEETS 01		ITEM NO. 01																										

MANUFACTURER'S NAME AND ADDRESS			QUALITY PLAN				TO BE FILLED BY BHEL		TO BE FILLED BY BHEL				
BHEL	VENDOR'S NAME	ITEM		QP NO.									
				DATED									
		DRG. NO.	AS PER PO										
		SPEC.	AS PER PO										
SL. NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORDS	AGENCY			REMARKS	
1	2	3	4	5	6	7	8	9	D	M	B	N	11

MANUFACTURER/SUBCONTRACTOR		LEGEND:	FOR CUSTOMER USE	
		! RECORDS IDENTIFIED WITH 'TICK' SHALL BE ESSENTIALLY INCLUDED BY CONTRACTOR IN QA DOCUMENTATION.		APPROVED BY
		M: MANUFACTURER / SUBCONTRACTOR B: BHEL / NOM. INSPECTION AGENCY N: CUSTOMER INDICATE 'P' PERFORM 'W' WITNESS AND 'V' VERIFICATION ALL 'W' INDICATED IN COLUMN 'N' SHALL BE 'CHP' OF CUSTOMER		