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FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

FORM DG 38(B)

00095-02121-3
DRAWING No.

INDUSTRIAL VIDEOIMAGESCOPE SYSTEM ALONG WITH ACCESSORIES

THE SYSTEM SHOULD CONSIST OF VIDEO-PROBE (WITH CCD LOCATED AT THE TIP OF THE PROBE), LIGHT AND POWER SOURCE AS REQUIRED, CCD CAMERA, CAMERA CONTROL UNIT FUNCTION, HANDY LCD MONITOR (SIZE NOT LESS THAN 6.0" INCH) , SUITABLE USB VIDEO PORT WITH SOFTWARE FOR SIMULTANEOUS VIEW OF INSPECTION AT PERSONAL COMPUTER AND OTHERS ESSENTIAL ACCESSORIES ALONG WITH NECESSARY SOFTWARE FOR VIEWING, RECORDING AS WELL AS MEASURING OF DEFECTS OR DISCONTINUITY. EQUIPMENT SHOULD COMPLY BELOW SPECIFICATION.

1.	INSERTION TUBE LENGTH & DIAMETER	3.5 METER & 6.0 MM
2.	LCD MONITOR	NOT LESS THAN 6.0" LCD DAY LIGHT MONITOR . THE LCD SCREEN SHOULD BE INTEGRATED WITH THE EQUIPMENT AND SHOULD NOT BE OFFERED AS A SEPARATE MONITOR.
3.	POWER SUPPLY & BATTERY POWER BACKUP	100-240VAC/50HZ SINGLE PHASE , 2 HRS
4.	PROBE TECHNOLOGY & PROBE CONSTRUCTION.	TUNGSTEN BRAID
5.	LIGHT SOURCE	LED HAVING ILLUMINATION AT THE TIP FOR ADEQUATE VISIBILITY OF THE COMPONENT BEING VIEWED EVEN IN DARK. EQUIPMENT SHOULD HAVE FEATURE FOR AUTOMATIC LIGHT ILLUMINATION CONTROL.
6.	WEIGHT OF EQUIPMENT	MAX. 4.5 KGS.
7.	UNIT PROTECTION (MIN.)	IP55 RATING
8.	ARTICULATION & CONTROL	MIN 130 DEGREE, 4 WAY, SCOPE TIP ARTICULATION WITH ELECTRONIC POWER-ASSISTED, MANUAL ARTICULATION, CONTROL IS BY JOY STICK ONLY
9.	EQUIPMENT PROTECTION	EQUIPMENT SHOULD PROTECTED AGAINST, VIBRATION (GENERAL VIBRATION TEST), SHOCK (TRANSIT DROP TEST), WATER RESISTANCE , HUMIDITY, SAND AND DUST, SALT FOG, ELECTROMAGNETIC INTERFERENCE. BIDDERS TO SUBMIT TEST CERTIFICATE FOR THE SAME ALONG WITH TECHNICAL BID.
10.	SOFTWARE & ARTICULATION CONTROL	DEDICATED JOY STICK FOR SOFTWARE CONTROL & ARTICULATION CONTROL
11.	HAND HELD CONTROLLER & OPERATIONAL KEYS	USER FRIENDLY HAND HELD CONTROLLER. ALL QUICK ACCESS BUTTON ON CONTROLLER FOR FREQUENTLY USED FUNCTIONS SUCH AS LIVE MODE, BRIGHTNESS, ZOOM, FREEZE IMAGE, RECORD STILL/VIDEO, ARTICULATION CONTROL, ARTICULATION LOCK, MENU ACCESS, SAVED RECORDING INDEX ACCESS, QUICK LAST IMAGE RECALL
12.	PDF VIEW	EQUIPMENT SHOULD HAVE FEATURE TO UPLOAD & VIEW PDF.
13.	MEASUREMENT & MEASUREMENT FUNCTION:	STEREO - MEASUREMENT ONLY.
A.	DISTANCE	DISTANCE BETWEEN TWO POINTS.
B.	POINT ON LINE	PERPENDICULAR DISTANCE BETWEEN A POINT AND A USER-DEFINED LINE
C.	DEPTH	ORTHOGONAL DEPTH/HEIGHT DISTANCE BETWEEN A POINT AND A USER-DEFINED PLANE.
D.	AREA	MULTIPLE POINT CIRCUMFERENCE AND AREA MEASUREMENT.
14.	TEMPERATURE SENSOR	EQUIPMENT SHOULD HAVE 2-STAGE INDICATOR FOR HIGH TEMPERATURE WARNING.
15.	IMAGE CONTROL	5X DIGITAL ZOOM
16.	IMAGE RESOLUTION	IMAGE RESOLUTION - H 768 X V 576 (PIXEL)
17.	STORAGE	USB FLASH MEMORY 1 GB MINIMUM.
18.	OPERATING TEMPERATURE	INSERTION TUBE -25°C TO 100°C IN AIR & SYSTEM -10°C TO 40°C IN AIR.

MATERIAL CODE :- W90312120010

GRADE OF UNTOL.DIM

M/CG.-~~Q~~/M/~~F~~ AA0230208

WELDING-~~A~~/B/~~C~~/~~D~~ AA0621104

GAS CUTTING-'T3'AA0621101

REV	DATE	ALTERED
		CHECKED

DRAWING UPDATED.

AS PER C\A NO. STE-16-F0012.

GMS No. / C B O M		STATUS OF DRG	
AGREED DEPT	NAME	SIGN	DATE

REV	DATE	ALTERED
01	19.01.15	SUNNY
		CHECKED ALOK SINGH

SHEET NO.1 DRAWING SUPERSEDED UNDER SAME NUMBER.
SHEET NO.2 ADDED

AS PER C\A NO. STE-15-F0064.

TYPE OF PRODUCT **STEAM TURBINE**
OR
NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.
RANIPUR, HARDWAR

	NAME	SIGN	DATE	NO. OF VAR
DRN	AFZAL KHAN	SD/-	05.02.14	—
CHD	SUNNY	SD/-	07.02.14	—
APPD	DKRAY	SD/-	10.02.14	73 74

DEPT STE	SCALE 1:2	WEIGHT (KG) --	REF. TO ASSY. DRG. —	ITEM No. —	NO. OF ITEMS 75 77
CODE 4011					

TITLE : **BORESCOPIC VIDEO IMAGE KIT**

CARD CODE	DRAWING NO. 3-12120-56000	22 23 24
	SHEET No. 01	No. OF SHEETS 02

SIZE A3

THE EQUIPMENT SHOULD HAVE THE BELOW OPTICAL ADAPTORS:

A. VIEWING TIP – VIEWING TIP ADAPTORS (INTERCHANGEABLE) OF DIAMETER AS COMPATIBLE WITH THE PROBE AS REQUIRED :

a. FORWARD VIEW

FIELD OF VIEW	120°
PURPOSE	OPTICAL IMAGING
DIRECTION OF VIEW	FORWARD
DEPTH OF FIELD	19 MM TO INFINITY

b. SIDE VIEW

FIELD OF VIEW	120°
PURPOSE	OPTICAL IMAGING
DIRECTION OF VIEW	SIDE
DEPTH OF FIELD	4 MM TO 100 MM

B. STEREO MEASUREMENT TIP – STEREO TIP ADAPTORS (INTERCHANGEABLE) OF DIAMETER AS COMPATIBLE WITH THE PROBE AS REQUIRED.

a. FORWARD VIEW

FIELD OF VIEW	60D / 60D
PURPOSE	MEASUREMENT
DIRECTION OF VIEW	FORWARD
DEPTH OF FIELD	5 MM TO 80 MM

BILL OF MATERIAL FOR INDUSTRIAL VIDEO IMAGE SCOPE SYSTEM WITH ACCESSORIES

SL. NO.	BHEL REQUIREMENT	QTY.
1.	VIDEO IMAGE SCOPE WITH HANDSET SCREEN , CONTROL UNIT, LIGHT SOURCE (AS REQUIRED), INSERTION PROBE (AS PER SPECIFICATION) (6 MM & 3.5 METER) , WITH PRE LOADED SOFTWARE & ACCESSORIES FOR VIEWING, RECORDINGS WELL AS MEASURING OF DEFECTS OR DISCONTINUITY ALONG WITH CARRYING CASE.EQUIPMENT SHOULD COMPLY BELOW SPECIFICATION.	1 SET
2.	VIEWING TIP (FORWARD) (AS PER SPECIFICATION)	1 SET
3.	VIEWING TIP (SIDE) (AS PER SPECIFICATION)	1 SET
4.	STEREO MEASUREMENT TIP(FORWARD) (AS PER SPECIFICATION)	1 SET
5.	RECHARGEABLE BATTERY FOR SYSTEM	1 SET
6.	BATTERY CHARGER / AC ADAPTOR	1 SET
7.	FLEX & STAY GUIDE TUBE 1 METER FOR 6MM PROBE DIA.	1 SET

NOTES:

- VENDOR HAS TO ARRANGE A DEMONSTRATION OF SUPPLIED EQUIPMENT AT SITE.
- THREE COPIES OF OPERATION & MAINTENANCE MANUAL (INCLUDING DIAGNOSTIC PHILOSOPHY i.e. RUN/REPAIR/REPLACE CRITERIA) IN SOFT COPY AS WELL AS IN HARD COPY MUST BE SUPPLIED ALONG WITH THE EQUIPMENT.
- GUARANTEE CERTIFICATE FOR 12 MONTHS FROM DATE OF COMMISSIONING OR 18 FROM DATE OF DESPATCH, WHICHEVER IS EARLIER TO BE PROVIDED.
- SUPPLIER SHOULD HAVE FULL FLEDGE SERVICE CENTER FOR VIDEO SCOPE IN INDIA.

MATERIAL CODE : –W90312120010

Ref.Drawing No

Sign & Date

Inventory No

-GWS-No-7		C B O M		STATUS OF DRG		TYPE OF PRODUCT		STEAM TURBINE	
AGREED DEPT		NAME		SIGN		DATE		OR	
								NAME OF CUSTOMER/PROJECT	
								BHARAT HEAVY ELECTRICALS LTD.	
								RANIPUR, HARDWAR	
								DRN AFZAL KHAN	
								CHD SUNNY	
								APPD DKRAY	
								SD/-	
								SD/-	
								SD/-	
								10.02.14	
								73 74	
								ITEM No.	
								75 77	
								REF. TO ASSY. DRG.	

								WEIGHT (KG)	

								SCALE	
								1:2	
								DEPT STE	
								CODE 4011	
								TITLE :	
								BORESCOPIC VIDEO IMAGE KIT	
								CARD CODE	
								3-12120-56000	
								SHEET No.	
								02	
								NO. OF SHEETS	
								02	
								SIZE A3	