
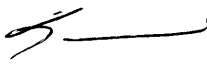
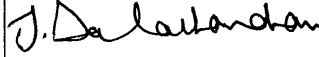


<b>TITLE : TECHNICAL SPECIFICATION FOR BOUGHT ITEMS FOR ESP</b>				
<b>ITEM : PAINTED POWER JUNCTION BOX</b>				
<b>PROJECT : BHEL STANDARD</b>				
<b>NAME</b>		<b>DESIGNATION</b>	<b>SIGNATURE</b>	<b>DATE</b>
PREPARED	P.V.D.MURTHY	Addl. Engr I		28.04.2008
CHECKED	S.RANGARAJAN	Sr.MGR		28.04.2008
APPROVED	J.BALACHANDRAN	Dy.GM		28.04.2008
<b>ISSUED BY</b>				
<b>EDC – ECI</b>				
<b>REVISION NO :02</b>	<b>DESCRIPTION ALTERED IN PAGE NO:07 OF 10</b>			<b>28.04.2008</b>
<b>REVISION NO :01</b>	<b>CLAUSE 5.29 ADDED</b>			<b>20.04.2008</b>
<b>REVISION NO :00</b>	<b>INITIAL RELEASE</b>			<b>19.11.2007</b>

### 1.0 SCOPE OF SUPPLY:

The scope of supply of Junction box includes manufacturing, inspection, testing, packing and delivery of junction Boxes (painted) as per this specification and attached drawings.

### 2.0 APPLICATION:

The Junction boxes are used in Power station to interconnect various field-mounted electrical equipment pertaining to boiler auxiliaries.

### 3.0 APPLICABLE STANDARDS:

The Junction boxes shall be manufactured and tested as per the following standards.

IS 13947 - Low voltage Switchgear and Control Gear specification.

IS 6005 - Code for Practice for Phosphate Coatings of Iron & Steel.

IS 694 - PVC insulated Cables for working voltages upto and including 1100 V - specification.

### 4.0 SITE CONDITIONS:

- |                           |  |
|---------------------------|--|
| 4.1 Ambient temperature   | : 1 Deg.C to 50 Deg.C  |
| 4.2 Relative humidity     | : 100% RH  |
| 4.3 Atmospheric condition | : Highly dusty, abrasive and polluted, conducive to fungus growth, climate is tropical. Environment is as prevalent in a coal fired thermal power station. |
| 4.4 Design temperature    | : 50 Deg.C   |
| 4.5 Location              | : Out door   |

### 5.0 GENERAL REQUIREMENTS:

- |  |   |
|--|---|
| 5.1 Enclosure material   | : 2 mm Cold rolled sheet steel  |
| 5.2 Material of Removable gland plate  | : 3mm Hot rolled sheet steel  |
| 5.3 Material of continuous hinge pin, rider clamp, rider spring, washers & rider bolt. | : SS 316  |
| 5.4 Pre Treatment of sheet steel   | : Seven tank process as per IS 6005.                                  |
| 5.5 General construction   | : As per drawings forming part of this specification.                 |
| 5.6 Enclosure protection   | : IP 55 as per IS 13947   |
| 5.7 Terminal block type & arrangement  | : ELMEX or equivalent type of BHEL approved make mounted on DIN rail. |

- 5.8 Terminal block insulating material : Melamine
- 5.9 Terminal block voltage grade : 650 V (Minimum)
- 5.10 Door Gasketing : Neoprene gasket 6 mm thick of shore hardness 20 to 30 & density 0.4 gm/cc shall be provided on all mating surfaces.
- 5.11 Gland plate Gasketing : Neoprene gasket 3 mm thick of shore hardness 30 to 40 & density 0.4 gm/cc shall be provided on all mating surfaces.
- 5.12 Door Opening : Suitable for 180 ° opening.
- 5.13 Lug type : Annealed tinned solder less crimping type copper lugs shall be provided for all the terminals on both sides. Lug type shall be as mentioned in attached drawing.
- 5.14 Cable Gland type : Nickel chromium plated Brass Double Compression type cable glands fixed on the gland plate, with dummy plugs.
- 5.15 Cable Gland size & quantity : As per attached drawing
- 5.16 Number of earthing terminals : Two as per attached drawing.
- 5.17 Size & location of earthing terminals : As per attached drawing
- 5.18 Location of earthing symbol : Just above the earthing terminal. Symbol to be black lines on yellow background.
- 5.19 Rated voltage grade of junction box : 415V.
- 5.20 Mounting fasteners : 4 sets of chromium plated bolts, nuts and spring washers for mounting the JB shall be supplied.
- 5.21 All seams are to be continuously welded. There shall be no holes or sockets on top and sides.
- 5.22 Suitable DIN rails along with clamps and screws shall be provided for terminal block mounting .All terminals are to be numbered serially by suitable identification label of PVC material in white background with black numbers. Terminal blocks shall be fixed to T.B supporting DIN rail by means of suitable end plates with screws.
- 5.23 Stickers have to be fixed over the cable glands to indicate the cable size.

5.24 Rolled lip shall be provided around three sides of door and around all sides of enclosure opening. This lip is to increase the strength and to keep dirt and liquid from dropping into the enclosure when the door is opened.

5.25 Name plate of 2 ply lamincoid in white colour with the following inscription in black letters shall be fixed to the name plate mounting bracket on top of the junction box with plated screws.

EP JUNCTIONBOX (POWER) VAR *
BHEI /BAP/RANIPET

\* - As applicable

5.26 The different variants of JB shall have dimensions & cable glands as per the following table.

VARIANT	INCOMING					OUTGOING				
	CABLE SIZE (AL)	CABLE GLAND		T.B. TYPE	LUG TYPE	CABLE SIZE (CU)	CABLE GLAND		T.B. TYPE	LUG TYPE
		SIZE	QTY				SIZE	QTY		
P1	3C-16 SQMM	CBW03 CBW04	02 02	CST-16	CP8	2C-2.5 SQMM	CBW01	10	CST-10	CPI 19
P2	3C-35 SQMM	CBW05	02	CBT-110	CUS12	2C-2.5 SQMM	CBW01	12	CST-10	CPI 19
P3	3C-70 SQMM	CBW07	02	CBT-170	CUS18	2C-2.5 SQMM	CBW01	12	CST-10	CPI 19

5.27 The untoleranced dimensions shall be as per IS 2102.

5.28 For cable glands, lugs & TBs, the type reference indicated in above table is that of a particular manufacturer. Equivalent type of cable glands, lugs & TBs of other BHEL approved makes given in this specification can also be used.

5.29 Alternate arrangement of fixing the gland plate to the bottom of the Junction box by suitable steel, Zinc plated rivet nuts is also acceptable in which case the make of rivet nut and fixing arrangement is subject to BHEL approval. Make shall be BOLLHOFF, Germany or equivalent.

## **6.0 MAKE OF COMPONENTS**

- 6.1 Terminal block : ELMEX / CONNECTWELL / TOSHA /  
CONTROLS & SWITCHGEAR / WAGO
- 6.2 Crimping type lug : DOWELLS / JAINSON / LOTUS
- 6.3 Cable glands : COMET / BRACCO / ANUP ENGG./ QUALITY  
PRECISION/ SUNIL & Co. / SIEMENS /  
CONTROLS & SWITCHGEAR / SCHNEIDER

## **7.0 PAINTING**

The JB shall be painted with two coats of epoxy based Zinc Chromium primer and finally finished with two coats of epoxy paint as follows.

Exterior & Interior : Light grey shade 631 as per IS 5.  
Finish : Semi Glossy  
Paint thickness : 50 microns.

## **8.0 PACKING**

Each JB shall be fully wrapped in a polythene cover to avoid water entry and then packed separately in cardboard box. Finally all such boxes shall be packed in a wooden crate.

## **9.0 DRAWING**

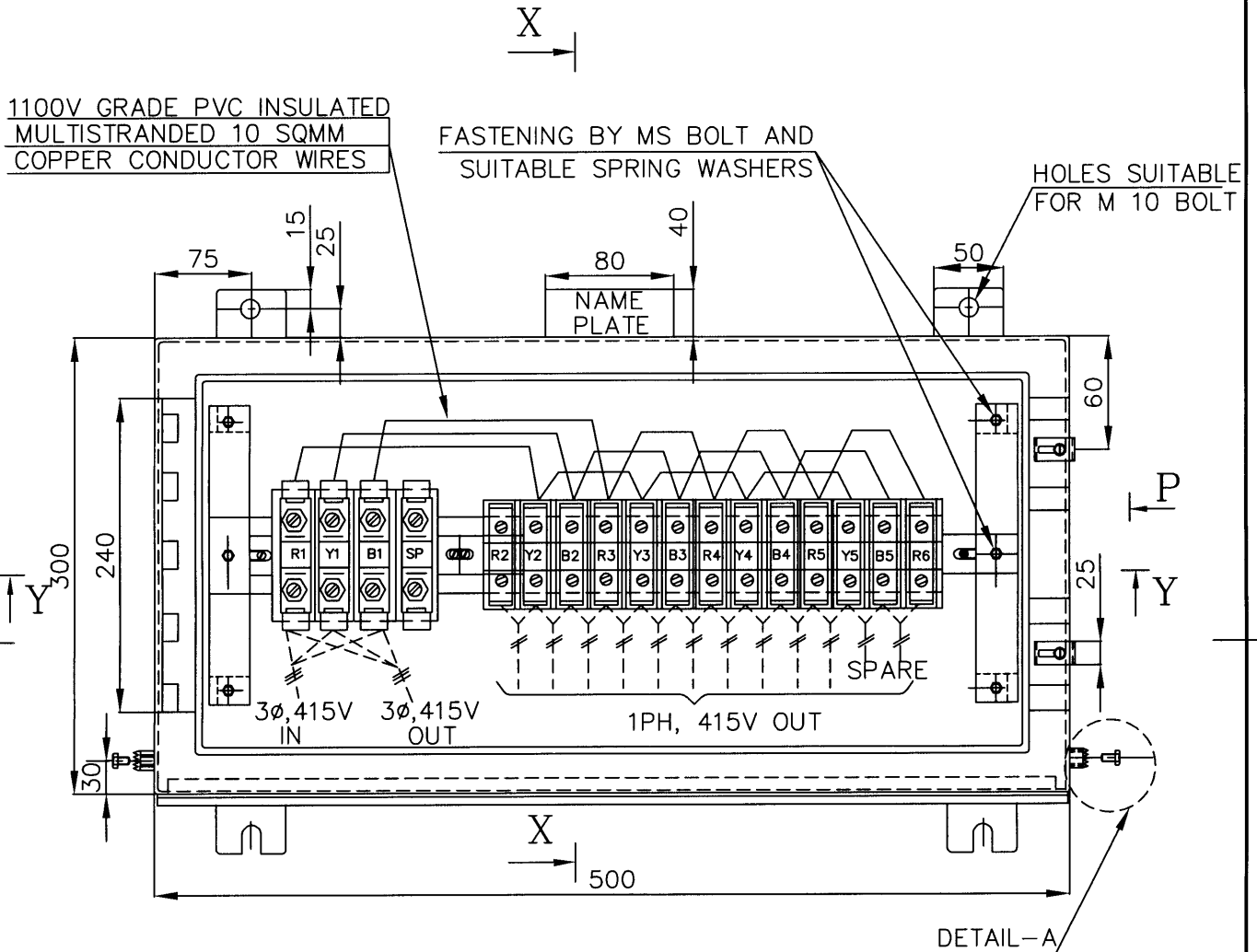
Manufacturing drawings prepared in AUTO CAD shall be submitted in SOFT MEDIA in addition to **4 sets of hard copies** for approval by BHEL, (prior to start of manufacture) within 10 days from the date of purchase order.

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REV	DATE	ALTERED
		CHECKED

ALL DIMENSIONS ARE IN MILLIMETRES

TECI: PPJB: 002: REV 02  
PAGE 06 OF 10



**NOTE:**

01. THIS DRAWING SHALL BE READ ALONG WITH DRAWING NUMBERS 4-00-114-31085 TO 4-00-114-31088.

	<b>BHARAT HEAVY ELECTRICALS LTD.,</b> UNIT: BOILER AUXILIARIES PLANT. RANIPET - 632 406.		DRN	NAME	SIGN	DATE	NO. OF
			CHD	A.S	<i>[Signature]</i>	19.11.07	VAR
			APPD	P.V.D	<i>[Signature]</i>	19.11.07	
DEPT	GRADE OF		SCALE	WEIGHT (KG).	REF. TO ASSY./OLD DRG.	ITEM NO.	NO. OF
ECI	UNTOL. DIM		NTS	-	-		ITEMS
CODE							
TITLE				CARD CODE	DRAWING NO.		REV
GENERAL ARRANGEMENT OF PAINTED POWER JUNCTION BOX				U 01	4-00-114-31084		00

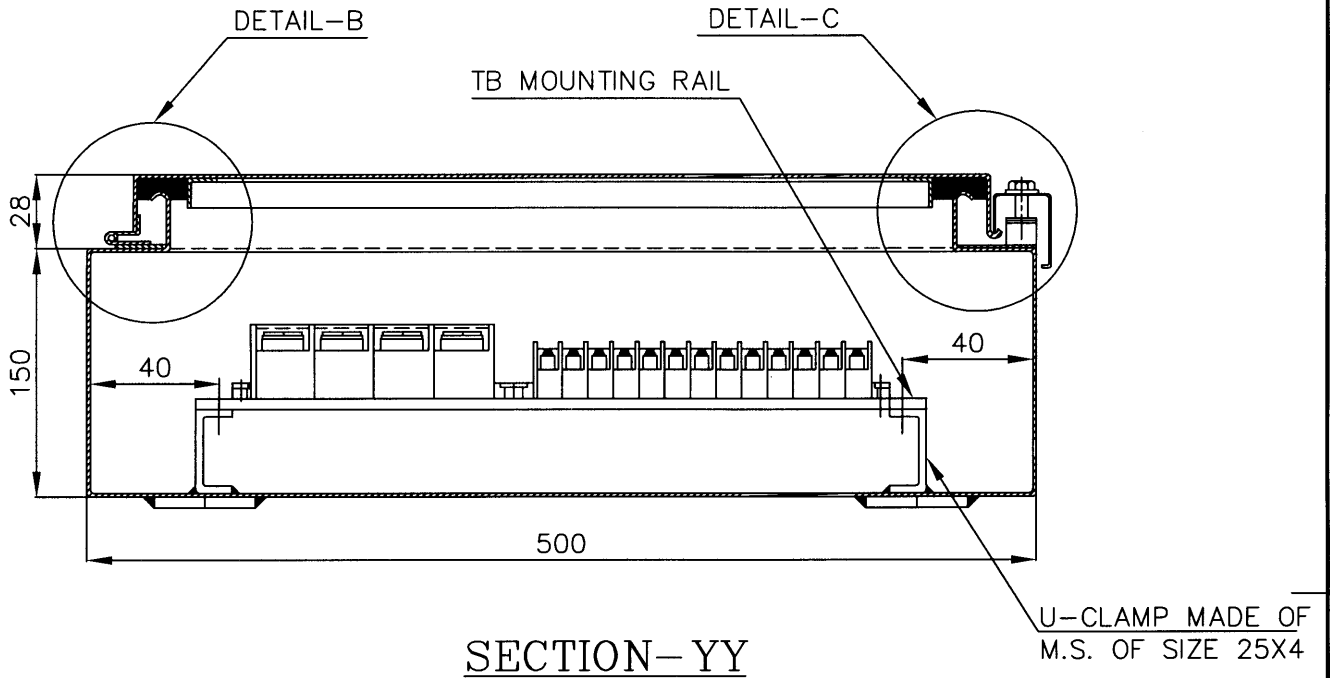


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REV	DATE	ALTERED
		CHECKED


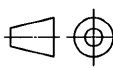
ALL DIMENSIONS ARE IN MILLIMETRES

TECI: PPJB: 002: REV 02  
PAGE 08 OF 10



**NOTE:**

01. THIS DRAWING SHALL BE READ ALONG WITH DRAWING NUMBERS  
4-00-114-31084, 4-00-114-31085, 4-00-114-31087 & 4-00-114-31088.

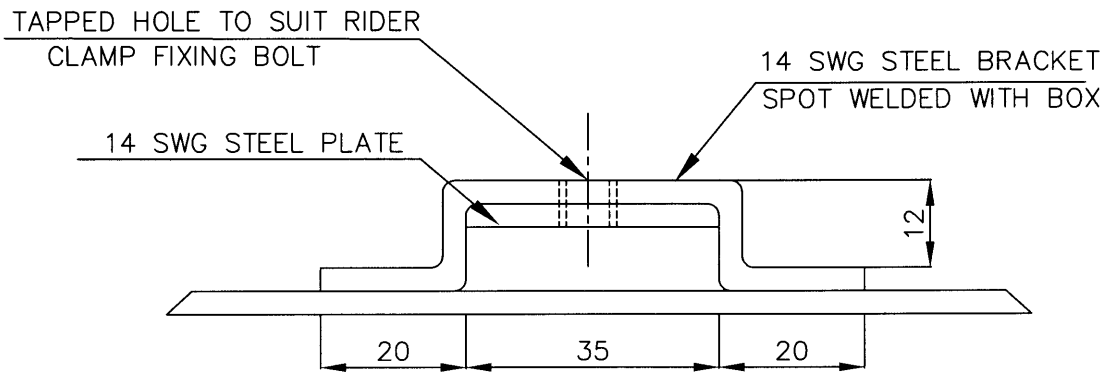
	<b>BHARAT HEAVY ELECTRICALS LTD.,</b> UNIT: BOILER AUXILIARIES PLANT. RANIPET - 632 406.		DRN	NAME	SIGN	DATE	NO. OF VAR
			CHD	A.S	<i>[Signature]</i>	19.11.07	
			APPD	P.V.D	<i>[Signature]</i>	19.11.07	
DEPT	ECI	GRADE OF UNTOL. DIM	SCALE	WEIGHT (KG).	REF. TO ASSY./OLD DRG.	ITEM NO.	NO. OF ITEMS
CODE			NTS	-	-		
TITLE				CARD CODE	DRAWING NO.		REV
GENERAL ARRANGEMENT OF PAINTED POWER JUNCTION BOX				U 01	4-00-114-31086		00

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		CHECKED

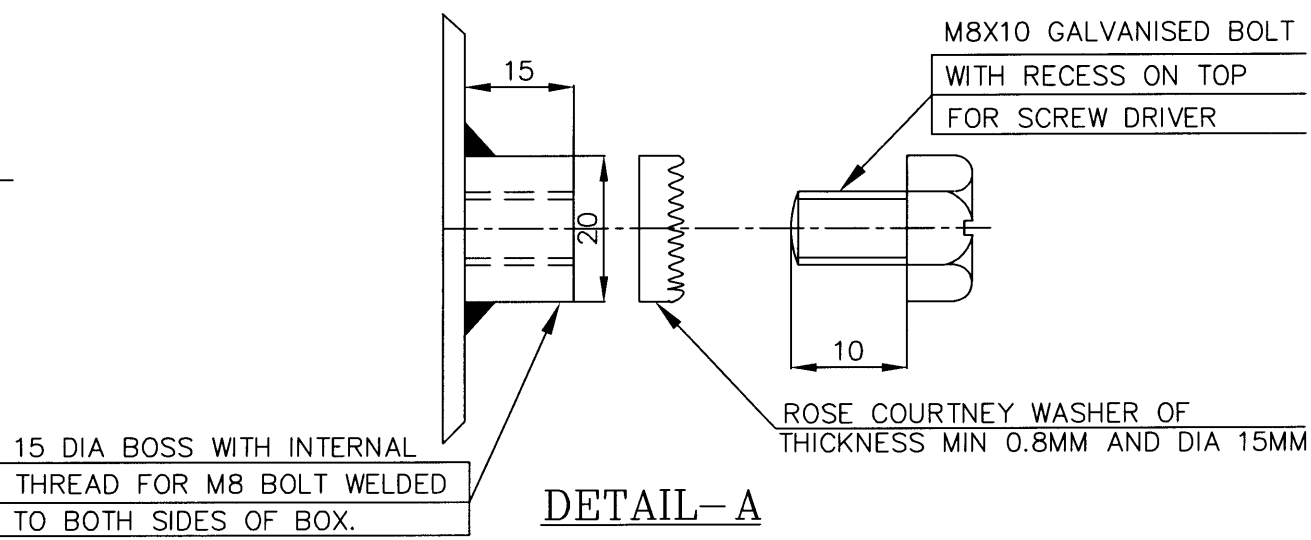
ALL DIMENSIONS ARE IN MILLIMETRES

TECI: PPJB: 002: REV 02  
PAGE 09 OF 10



**VIEW-P**

(WITH RIDER CLAMP AND BOLT REMOVED)



**DETAIL-A**

**EARTHING ARRANGEMENT**

(TO BE LOCATED 30 MM FROM REAR OF BOX)

**NOTE:**

- 01. THIS DRAWING SHALL BE READ ALONG WITH DRAWING NUMBERS 4-00-114-31084 TO 4-00-114-31086 & 4-00-114-31088.

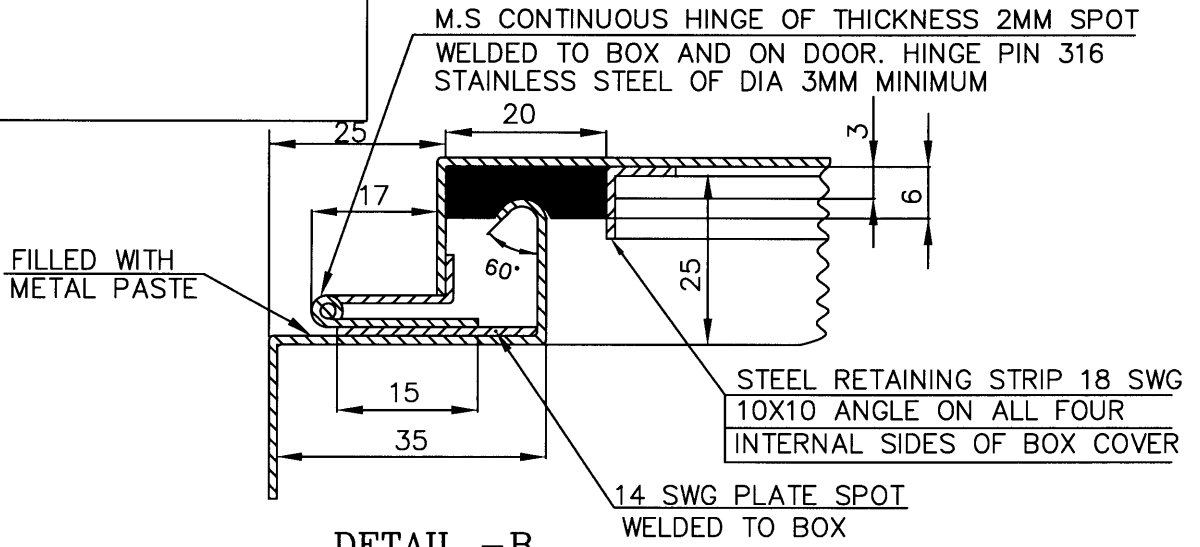
	<b>BHARAT HEAVY ELECTRICALS LTD.,</b> UNIT: BOILER AUXILIARIES PLANT. RANIPET - 632 406.		DRN	NAME	SIGN	DATE	NO. OF VAR
			CHD	P.V.D	<i>[Signature]</i>	19.11.07	
			APPD	JB	<i>[Signature]</i>	19.11.07	
DEPT ECI CODE	GRADE OF UNTOL DIM		SCALE	WEIGHT (KG).	REF. TO ASSY./OLD DRG.	ITEM NO.	NO. OF ITEMS
			NTS	-	-		
TITLE			CARD CODE	DRAWING NO.		REV	
GENERAL ARRANGEMENT OF PAINTED POWER JUNCTION BOX			U 01	4-00-114-31087		00	

CAUTION: The information must not be used directly or indirectly in any way detrimental to the interest of the company.

REV	DATE	ALTERED
		CHECKED

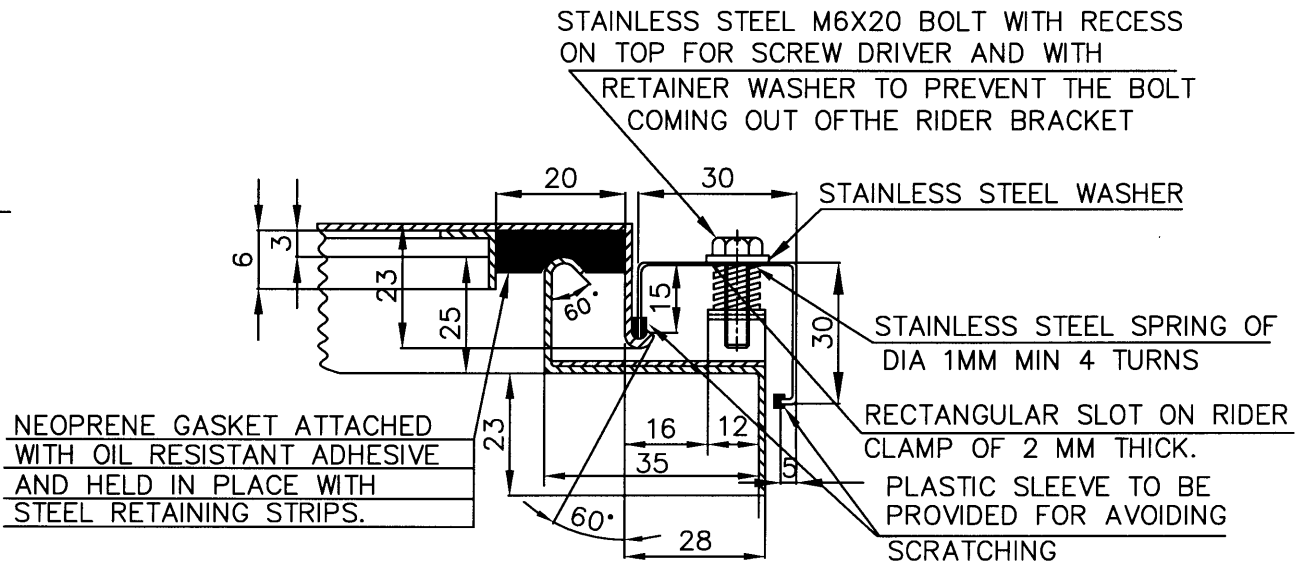
ALL DIMENSIONS ARE IN MILLIMETRES

TECI: PPJB: 002: REV 02  
PAGE 10 OF 10



**DETAIL - B**

**DOOR HINGE ARRANGEMENT**



**DETAIL - C**

**RIDER CLAMP ARRANGEMENT**

**NOTE:**

- 01. THIS DRAWING SHALL BE READ ALONG WITH DRAWING NUMBERS 4-00-114-31084 TO 4-00-114-31087.

	<b>BHARAT HEAVY ELECTRICALS LTD.,</b> UNIT: BOILER AUXILIARIES PLANT. RANIPET - 832 406.		DRN	NAME	SIGN	DATE	NO. OF VAR
			CHD	P.V.D	<i>P.V.D</i>	19.11.07	
			APPD	JB	<i>J.B.</i>	19.11.07	
DEPT ECI	GRADE OF UNTOL. DIM	SCALE	WEIGHT (KG).	REF. TO ASSY./OLD DRG.	ITEM NO.	NO. OF ITEMS	
CODE		NTS	-	-			
TITLE			CARD CODE	DRAWING NO.		REV	
GENERAL ARRANGEMENT OF PAINTED POWER JUNCTION BOX			U 01	4-00-114-31088		00	

**TITLE** : TECHNICAL SPECIFICATION FOR BOUGHT ITEMS FOR BOILER AUXILIARIES.  
**ITEM** : PAINTED CONTROL JUNCTION BOX  
**PROJECT** : BHEL STANDARD

	NAME	DESIGNATION	SIGNATURE	DATE
PREPARED	GMK	SAE	<i>G.M. Kumal</i>	09.10.2012
CHECKED	V.KESAVAN	MGR	<i>V.Kesavan</i>	09.10.2012
APPROVED	MJM	DGM	<i>MJM</i>	09.10.2012

**EDC – ECI**

REVISION NO :03	JB VARIANT–C3&C4 ADDED PAGE NO: 04 OF 10.	09.10.2012
REVISION NO :02	DESCRIPTION ALTERED IN PAGE NO:07 OF 10	28.04.2008
REVISION NO :01	CLAUSE 5.30 ADDED	20.04.2008
REVISION NO :00	INITIAL RELEASE	19.11.2007

**1.0 SCOPE OF SUPPLY:**

The scope of supply of Junction box includes manufacturing, inspection, testing, packing and delivery of junction Boxes (painted) as per this specification and attached drawings.

**2.0 APPLICATION:**

The Junction boxes are used in Power station to interconnect various field-mounted electrical equipment pertaining to boiler auxiliaries.

**3.0 APPLICABLE STANDARDS:**

The Junction boxes shall be manufactured and tested as per the following standards.

IS 13947 - Low voltage Switchgear and Control Gear specification.

IS 6005 - Code for Practice for Phosphate Coatings of Iron & Steel.

IS 694 - PVC insulated Cables for working voltages upto and including 1100 V-  
specification.

**4.0 SITE CONDITIONS:**

- |                           |  |
|---------------------------|--|
| 4.1 Ambient temperature   | : 1 Deg.C to 50 Deg.C  |
| 4.2 Relative humidity     | : 100% RH  |
| 4.3 Atmospheric condition | : Highly dusty, abrasive and polluted, conducive to fungus growth, climate is tropical. Environment is as prevalent in a coal fired thermal power station. |
| 4.4 Design temperature    | : 50 Deg.C   |
| 4.5 Location              | : Out door   |

**5.0 GENERAL REQUIREMENTS:**

- |  |   |
|--|---|
| 5.1 Enclosure material   | : 2 mm Cold rolled sheet steel  |
| 5.2 Material of Removable gland plate  | : 3mm Hot rolled sheet steel  |
| 5.3 Material of continuous hinge pin, rider clamp, rider spring, washers & rider bolt. | : SS 316  |
| 5.4 Pre Treatment of sheet steel   | : Seven tank process as per IS 6005.  |
| 5.5 General construction   | : As per drawings forming part of this specification.                         |
| 5.6 Enclosure protection   | : IP 55 as per IS 13947   |
| 5.7 Terminal block type & arrangement  | : ELMEX CST 2.5 or equivalent type of BHEL approved make mounted on DIN rail. |

- 
- 5.8 Terminal block insulating material : Melamine
- 5.9 Terminal block voltage grade : 650 V (Minimum)
- 5.10 Door Gasketing : Neoprene gasket 6 mm thick of shore hardness 20 to 30 & density 0.4 gm/cc shall be provided on all mating surfaces.
- 5.11 Gland plate Gasketing : Neoprene gasket 3 mm thick of shore hardness 30 to 40 & density 0.4 gm/cc shall be provided on all mating surfaces.
- 5.12 Door Opening : Suitable for 180 ° opening.
- 5.13 Lug type : Annealed tinned solder less crimping type copper lugs shall be provided for all the terminals on both sides. Lug type shall be Dowell's CP-19 for JB-Var-1&2 and CP-17 for JB-Var-3&4 pin type (insulated) or equivalent type of BHEL approved make.
- 5.14 Cable Gland type : Nickel chromium plated Brass Double Compression type cable glands fixed on the gland plate, with dummy plugs.
- 5.15 Cable Gland size & quantity : As per attached drawing
- 5.16 Number of earthing terminals : Two as per attached drawing.
- 5.17 Size & location of earthing terminals : As per attached drawing
- 5.18 Location of earthing symbol : Just above the earthing terminal. Symbol to be black lines on yellow background.
- 5.19 Rated voltage grade of junction box : 415V.
- 5.20 Mounting fasteners : 4 sets of chromium plated bolts, nuts and spring washers for mounting the JB shall be supplied.
- 5.21 All seams are to be continuously welded. There shall be no holes or sockets on top and sides.
- 5.22 Suitable DIN rails along with clamps and screws shall be provided for terminal block mounting .All terminals are to be numbered serially by suitable identification label of PVC material in white background with black numbers. Terminal blocks shall be fixed to T.B supporting DIN rail by means of suitable end plates with screws.
- 5.23 Stickers have to be fixed over the cable glands to indicate the cable size.

- 5.24 Rolled lip shall be provided around three sides of door and around all sides of enclosure opening. This lip is to increase the strength and to keep dirt and liquid from dropping into the enclosure when the door is opened.
- 5.25 Name plate of 2 ply lamicaid in white colour with the following inscription in black letters shall be fixed to the name plate mounting bracket on top of the junction box with plated screws.

EP JUNCTIONBOX (CONTROL) VAR *
BHEL/BAP/ RANIPET

\* - As applicable  
 For C1 & C2

GATE JUNCTIONBOX (CONTROL) VAR **
BHEL/BAP/ RANIPET

\*\* - As applicable  
 For C3 & C4

5.26 The different variants of JB shall have dimensions & cable glands as per the following table.

VARIANT	NO. OF WAYS	NO OF ROWS X TB/ROW	DIMENSION IN MM				GLANDS FOR ARMOURED, COPPER CABLES					
			A	B	C	D	INCOMING			OUTGOING		
							CABLES IZE	GLAND SIZE	QTY	CABLE SIZE	GLANDS IZE	QTY
C1	24	2X12	300	340	50	330	7C-2.5	CBW 03	2	4C-2.5	CBW 02	8
							12C-2.5	CBW 04	2			
C2	48	3X16	360	485	75	470	14C-2.5	CBW 04	5	4C-2.5	CBW 02	13
C3	24	2X12	300	340	50	330	2C-1.5	CBW 01S	2	--	--	--
							4Pair-0.5	CBW 01S	2	--	--	--
C4	48	3X16	360	485	75	470	2C-1.5	CBW 01S	2	--	--	--
							4Pair-0.5	CBW 01S	4	--	--	--

5.27 Number of bolts along the breadth of gland plate is fixed for all sizes as shown. Number of bolts along D direction (length of gland plate) is shown typical for 24 ways. For other size number of bolts to be distributed keeping equal distance between them.

5.28 The untoleranced dimensions shall be as per IS 2102.

5.29 For cable glands, the type reference indicated in above table is that of a particular manufacturer. Equivalent type of cable glands of other BHEL approved makes given in this specification can also be used.

5.30 Alternate arrangement of fixing the gland plate to the bottom of the Junction box by suitable steel, Zinc plated rivet nuts is also acceptable in which case the make of rivet nut and fixing arrangement is subject to BHEL approval. Make shall be BOLLHOFF, Germany or equivalent.

## **6.0 MAKE OF COMPONENTS**

- 6.1 Terminal block : ELMEX / CONNECTWELL / TOSHA  
CONTROLS & SWITCHGEAR / WAGO/  
PHONIX
- 6.2 Crimping type lug : DOWELLS / JAINSON / LOTUS/3D
- 6.3 Cable glands : COMET / BRACCO / ANUP ENGG./ QUALITY  
PRECISION/ SUNIL & Co. / SIEMENS

## **7.0 PAINTING**

The JB shall be painted with two coats of epoxy based Zinc Chromium primer and finally finished with two coats of epoxy paint as follows.

Exterior & Interior : Light grey shade 631 as per IS 5.  
Finish : Semi Glossy  
Paint thickness : 50 microns.

## **8.0 PACKING**

Each JB shall be fully wrapped in a polythene cover to avoid water entry and then packed separately in cardboard box. Finally all such boxes shall be packed in a wooden crate.

## **9.0 DRAWING**

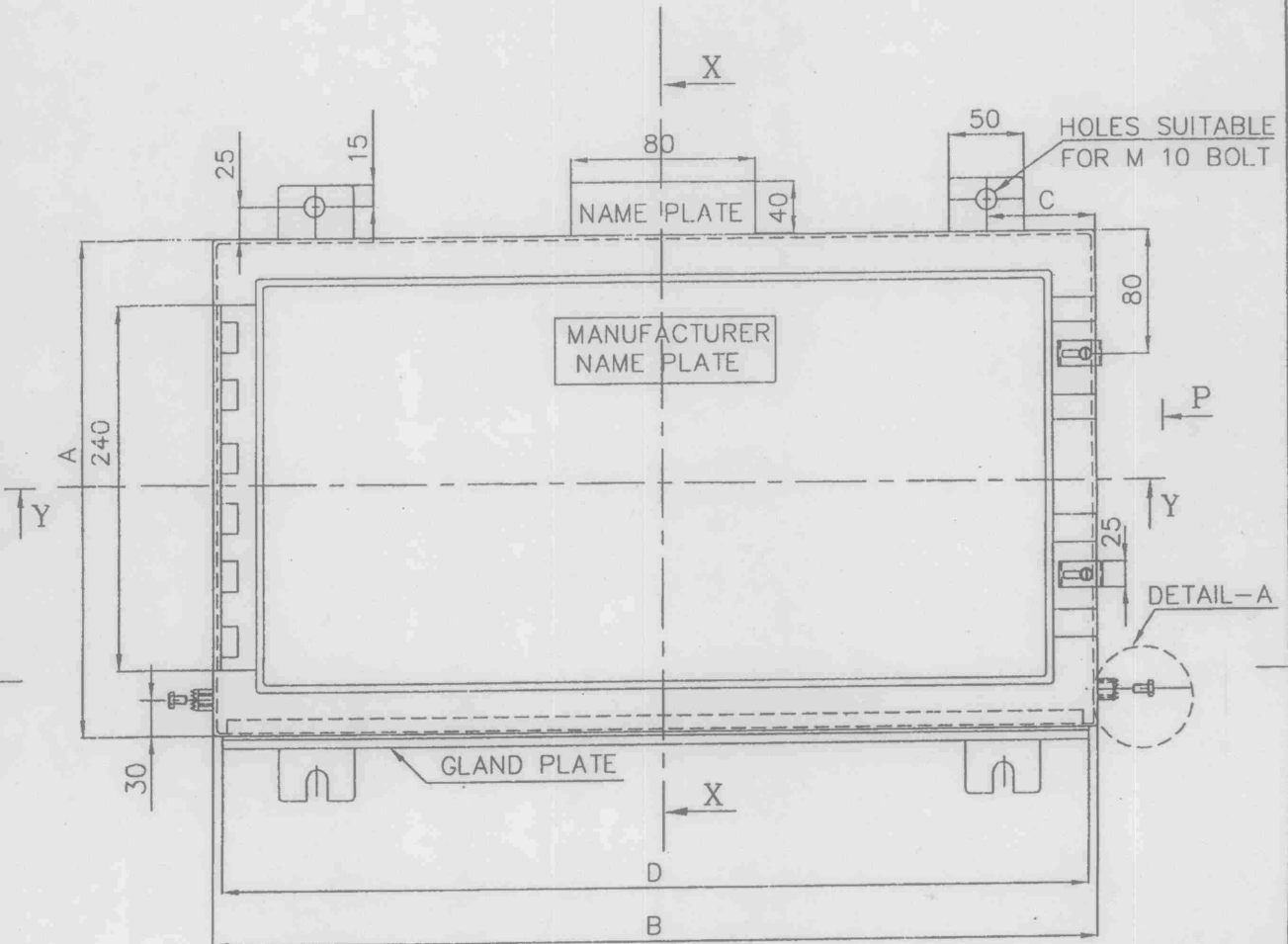
Manufacturing drawings prepared in AUTO CAD shall be submitted in SOFT MEDIA in addition to 4 sets of hard copies for approval by BHEL, (prior to start of manufacture) within 10 days from the date of purchase order.

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REV	DATE	ALTERED
		CHECKED

ALL DIMENSIONS ARE IN MILLIMETRES

TECI: PCJB: 009: REV 03  
PAGE 06 OF 10



**NOTE:**

- 01. THIS DRAWING SHALL BE READ ALONG WITH DRAWING NUMBERS 4-00-114-31080 TO 4-00-114-31083.

	<b>BHARAT HEAVY ELECTRICALS LTD.,</b> UNIT: BOILER AUXILIARIES PLANT. RANIPET - 632 406.		DRN	NAME	SIGN	DATE	NO. OF VAR
			CHD	P.V.D	<i>[Signature]</i>	19.11.07	
			APPD	JB	<i>[Signature]</i>	19.11.07	
DEPT ECI	GRADE OF UNTOL DIM		SCALE	WEIGHT (KG).	REF. TO ASSY./OLD DRG.	ITEM NO.	NO. OF ITEMS
CODE			NTS	-	-		
TITLE				CARD CODE	DRAWING NO.		REV
GENERAL ARRANGEMENT OF PAINTED CONTROL JUNCTION BOX				U 01	4-00-114-31079		00

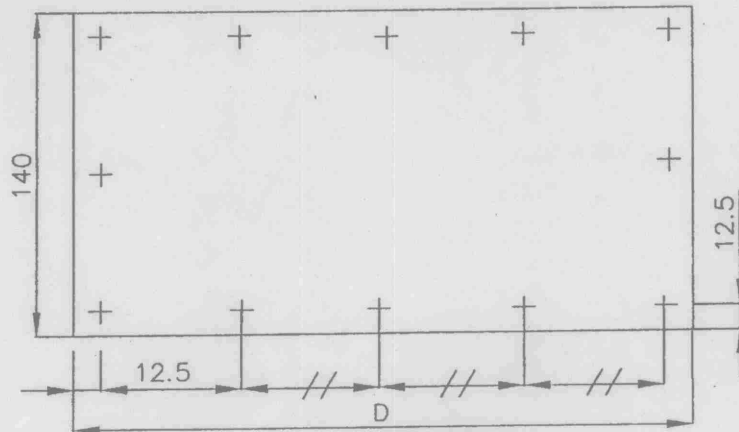
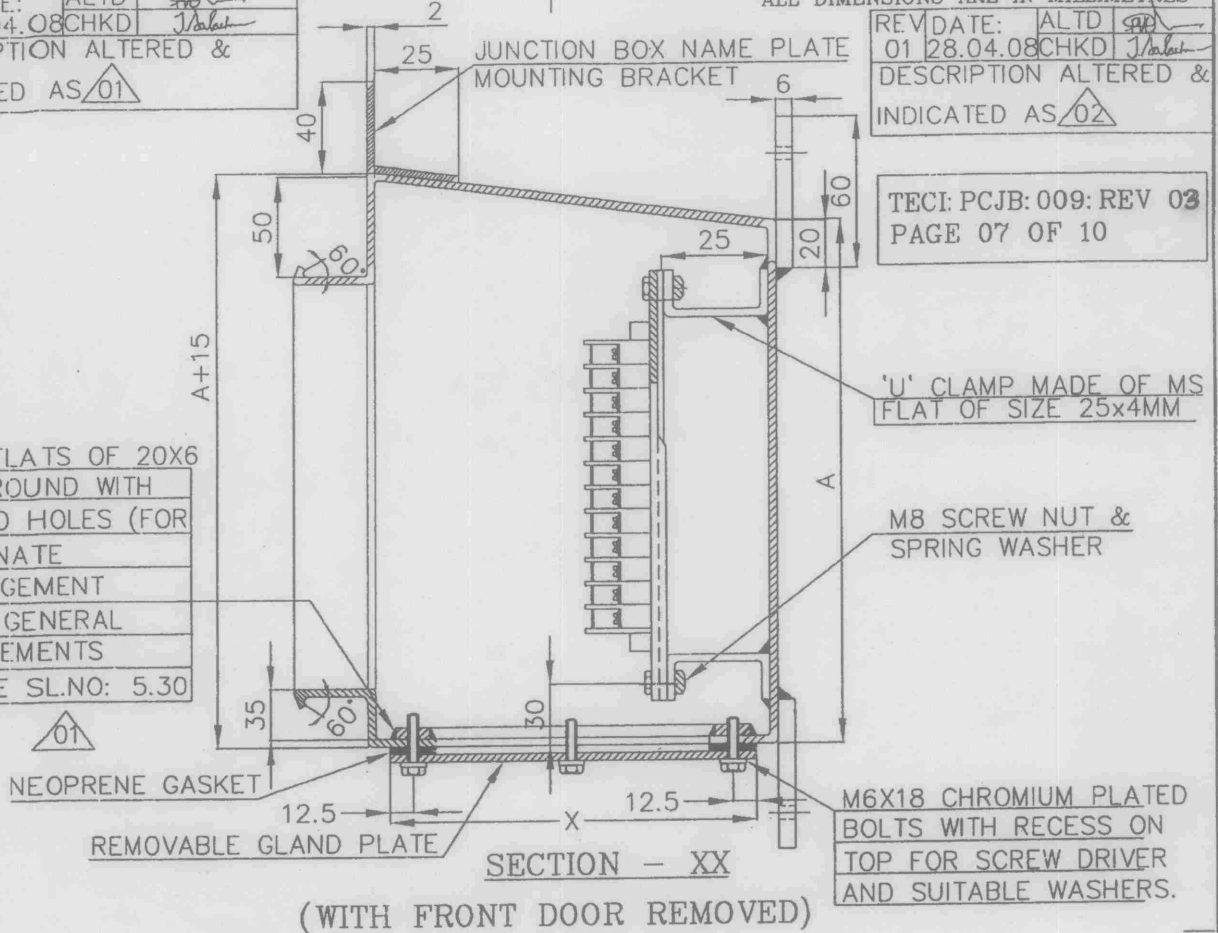
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REV DATE:	ALTD	<i>JP</i>
01 20.04.08	CHKD	<i>Jalab</i>
DESCRIPTION ALTERED & INDICATED AS <u>01</u>		

ALL DIMENSIONS ARE IN MILLIMETRES

REV DATE:	ALTD	<i>JP</i>
01 28.04.08	CHKD	<i>Jalab</i>
DESCRIPTION ALTERED & INDICATED AS <u>02</u>		

TECI: PCJB: 009: REV 03  
PAGE 07 OF 10



**NOTE:**

GLAND PLATE(TYP)

01. THIS DRAWING SHALL BE READ ALONG WITH DRAWING NUMBERS 4-00-114-31079, 4-00-114-31081 TO 4-00-114-31083.

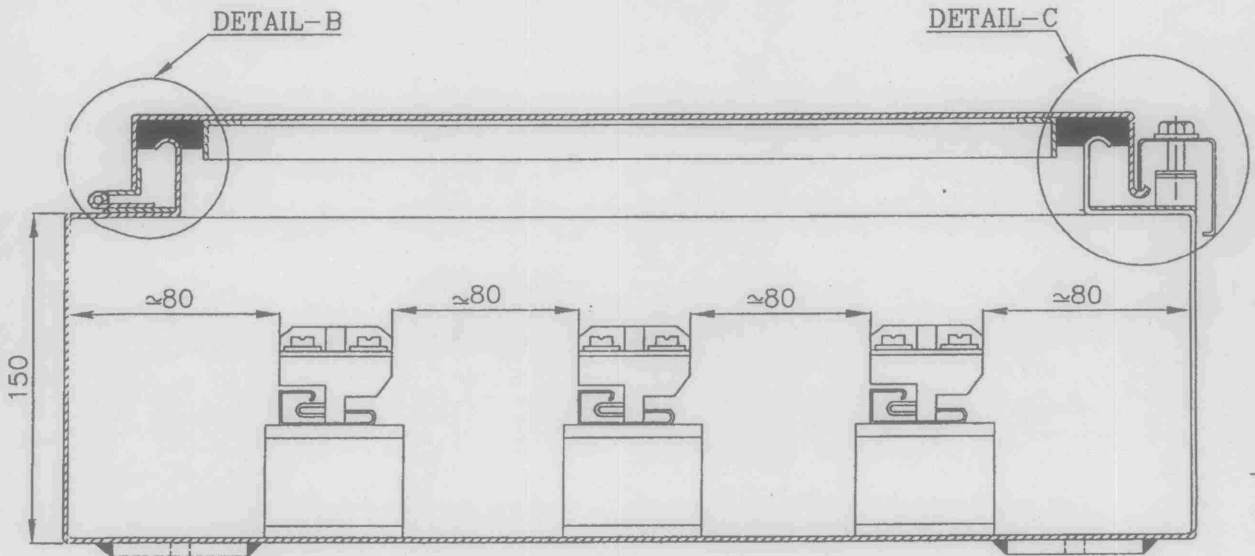
	BHARAT HEAVY ELECTRICALS LTD.,		DRN	NAME	SIGN	DATE	NO. OF VAR
	UNIT: BOILER AUXILIARIES PLANT.		CHD	A.S	<i>JP</i>	19.11.07	
	RANIPET - 632 406.		APPD	P.V.D	<i>JP</i>	19.11.07	
DEPT ECI	GRADE OF UNTOL DIM	SCALE	WEIGHT (KG).	REF. TO ASSY./OLD DRG.		ITEM NO.	NO. OF ITEMS
CODE		NTS	-	-			
TITLE			CARD CODE	DRAWING NO.		REV	
GENERAL ARRANGEMENT OF PAINTED CONTROL JUNCTION BOX			U 01	4-00-114-31080		02	

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REV	DATE	ALTERED
		CHECKED

ALL DIMENSIONS ARE IN MILLIMETRES


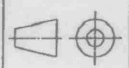
TECI: PCJB: 009: REV 03  
PAGE 08 OF 10



SECTION-YY  
(SHOWN FOR VARIANT-C2)

**NOTE:**

- 01. THIS DRAWING SHALL BE READ ALONG WITH DRAWING NUMBERS 4-00-114-31079, 4-00-114-31080, 4-00-114-000-31082 & 4-00-114-31083.

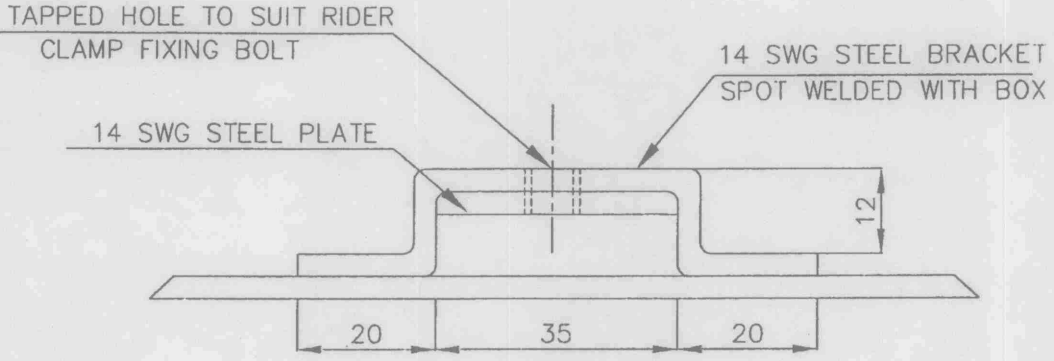
	<b>BHARAT HEAVY ELECTRICALS LTD.,</b> UNIT: BOILER AUXILIARIES PLANT. RANIPET - 632 406.		DRN	NAME	SIGN	DATE	NO. OF VAR	
			CHD	P.V.D	<i>[Signature]</i>	19.11.07		
			APPD	JB	<i>[Signature]</i>	19.11.07		
DEPT ECI	GRADE OF UNTOL. DIM		SCALE	WEIGHT (KG).	REF. TO ASSY./OLD DRG.		ITEM NO.	NO. OF ITEMS
CODE			NTS	-	-			
TITLE			CARD CODE	DRAWING NO.			REV	
GENERAL ARRANGEMENT OF PAINTED CONTROL JUNCTION BOX			U 01	4-00-114-31081			00	

CAUTION: The information in this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

REV	DATE	ALTERED
		CHECKED

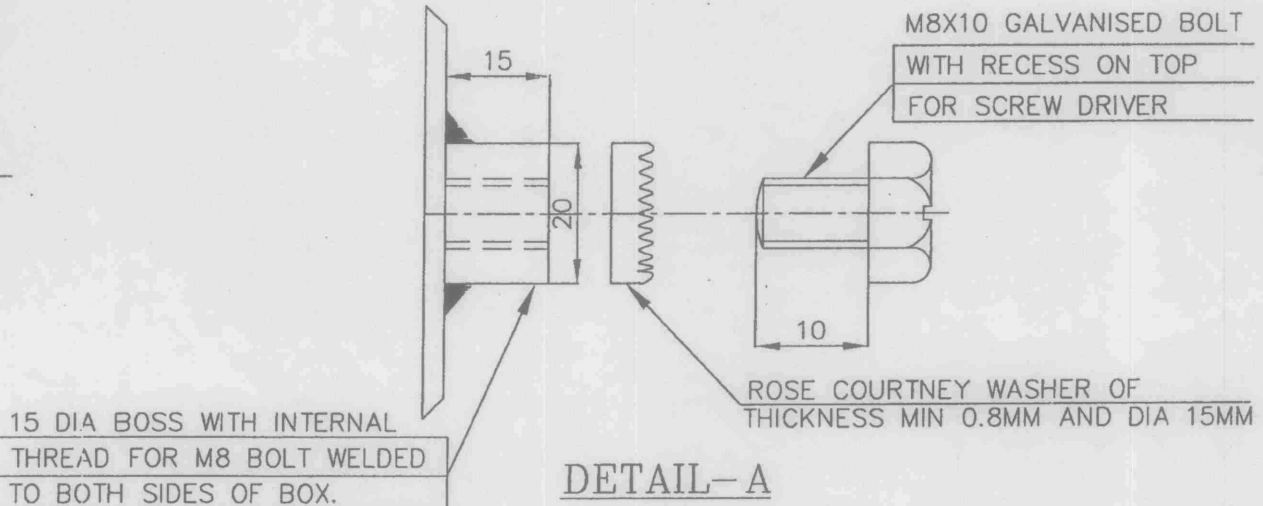
ALL DIMENSIONS ARE IN MILLIMETRES

TECI: PCJB: 009: REV 03  
PAGE 09 OF 10



**VIEW-P**

(WITH RIDER CLAMP AND BOLT REMOVED)



**DETAIL-A**

**EARTHING ARRANGEMENT**

(TO BE LOCATED 30 MM FROM REAR OF BOX)

**NOTE:**

- 01. THIS DRAWING SHALL BE READ ALONG WITH DRAWING NUMBERS 4-00-114-31079 TO 4-00-114-31081 & 4-00-114-31083.

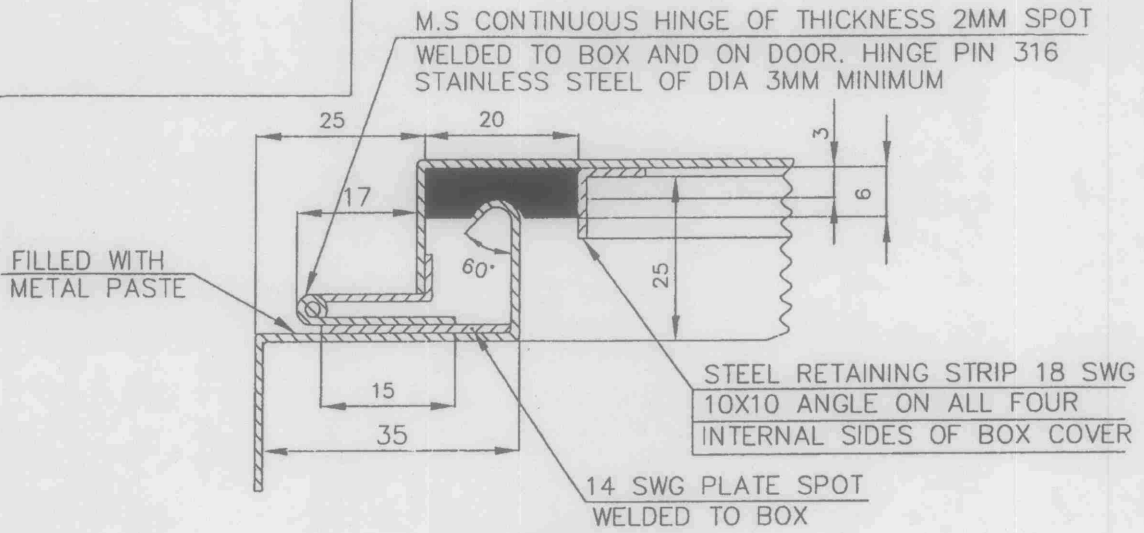
<p><b>BHARAT HEAVY ELECTRICALS LTD.,</b> UNIT: BOILER AUXILIARIES PLANT. RANIPET - 632 406.</p>		DRN	NAME	SIGN	DATE	NO. OF VAR
		CHD	A.S	<i>[Signature]</i>	19.11.07	
		APPD	P.V.D	<i>[Signature]</i>	19.11.07	
DEPT	GRADE OF UNTOL DIM	SCALE	WEIGHT (KG).	REF. TO ASSY./OLD DRG.	ITEM NO.	NO. OF ITEMS
ECI		NTS	-	-		
CODE						
TITLE			CARD CODE	DRAWING NO.	REV	
GENERAL ARRANGEMENT OF PAINTED CONTROL JUNCTION BOX			U 01	4-00-114-31082	00	

CAUTION: The information in this document is the property of BHARAT HEAVY ELECTRICALS LTD. and must not be used directly or indirectly in any way detrimental to the interest of the company.

REV	DATE	ALTERED
		CHECKED

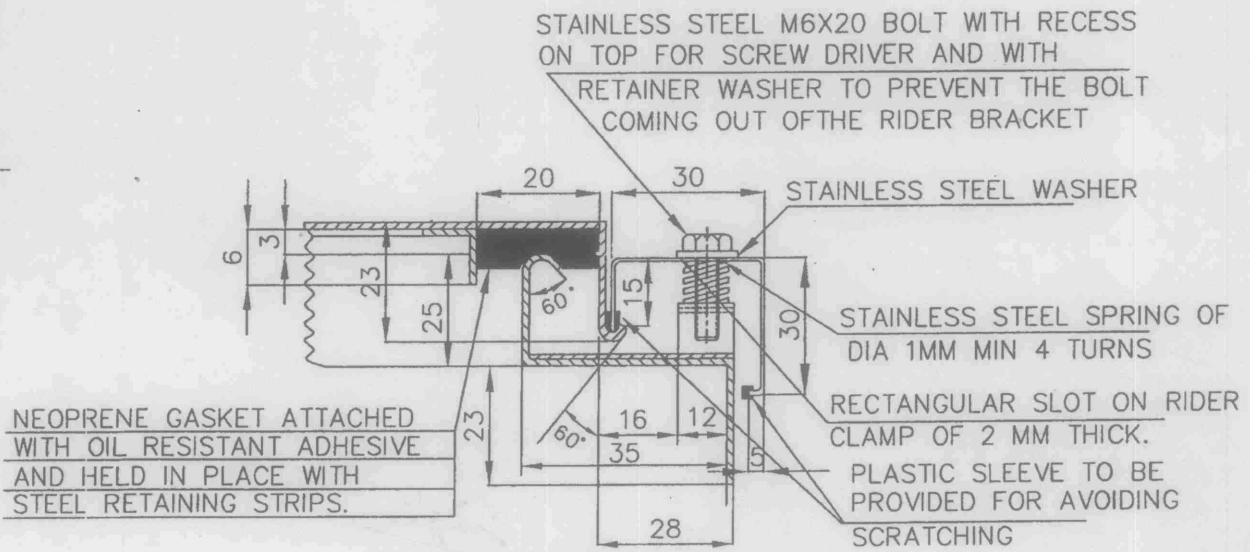
ALL DIMENSIONS ARE IN MILLIMETRES

TECI: PCJB: 009: REV 03  
PAGE 10 OF 10



**DETAIL - B**

**DOOR HINGE ARRANGEMENT**



**DETAIL - C**

**RIDER CLAMP ARRANGEMENT**

**NOTE:**

- THIS DRAWING SHALL BE READ ALONG WITH DRAWING NUMBERS 4-00-114-31079 TO 4-00-114-31082.

	<b>BHARAT HEAVY ELECTRICALS LTD.,</b> UNIT: BOILER AUXILIARIES PLANT. RANIPET - 632 406.		DRN	NAME	SIGN	DATE	NO. OF VAR
			CHD	P.V.D	<i>P.V.D</i>	19.11.07	
			APPD	JB	<i>JB</i>	19.11.07	
DEPT ECI	GRADE OF UNTOL DIM	SCALE NTS	WEIGHT (KG). -	REF. TO ASSY./OLD DRG. -		ITEM NO.	NO. OF ITEMS
CODE							
TITLE GENERAL ARRANGEMENT OF PAINTED CONTROL JUNCTION BOX			CARD CODE U 01	DRAWING NO. 4-00-114-31083		REV 00	