6TY.280.30027.3

P.O. NO: 157P217 Dated 18.12.2017

LV BUSHING
52kV , 3150A RIP CONDENSER BUSHING
MAKE: XIAN, CHINA
SUPPLIER'S DRAWING NO.: 75366 (ENCLOSED)

APPROVED &
COMMUNICATION VIDE Lr. No:
Lr.No.CE/TR/F.Ariyalur/D.38/dt.22/6/18
22/6/18
Superintending Engineer/Transmission/765kV
TANTRANSCO
6th Floor, N.P.K.R.R. Maaligai,
144, Anna Salai, Chennai - 600 002

Rev. No.	Date	Description	Prepared	Checked	Approved
00	25.01.2018	First issue	Kuldeep	Sanjeev	Satyam

TBEA

TBEA Energy (India) Pvt. Ltd.
"TBEA GREEN ENERGY PARK"
National Highway No.8,
Village: Miyagam, Karjan,
Gujarat - 391240. India

Customer	M/s Tamil Nadu Transmission Corporation Limited
Project:	765/400kV Air Insulated substation Ariyalur
Contractor	BHEL
Product Type	500 MVA 765/400/33kV 1-Ø Auto transformer
Code	6TY.280.30027.3
Name	LV BUSHING
Indent No.	T14117
Scale	N.T.S.
Page Size	A3
Mass (kg)	-
Projection	
Customer	BHEL A/c TANTRANSCO
Total Pages	6
Current Page	1

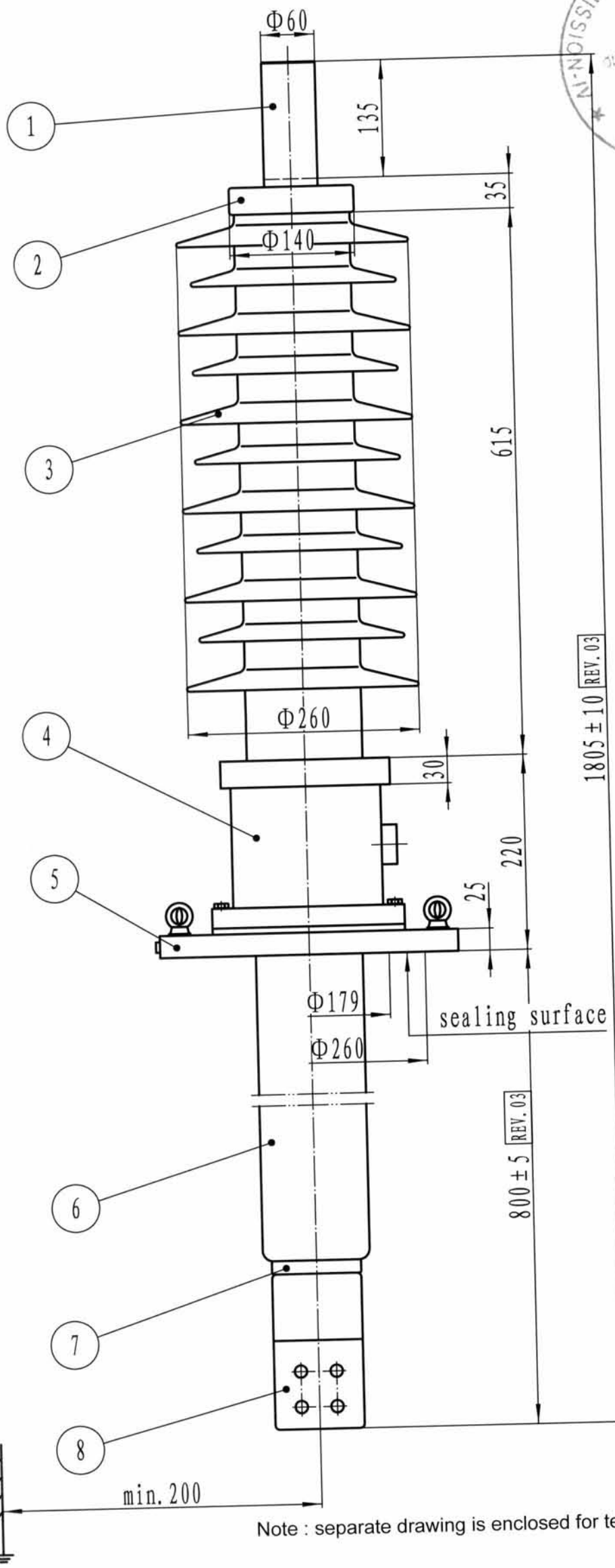
All dimensions are in millimeter unless otherwise specified

XIAN XD HIGH VOLTAGE BUSHING CO., LTD.

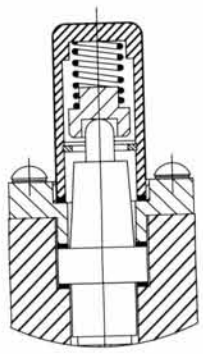
DWG.	CAT. NO.: 75366 REV. 03
TYPE:	BRFGL1-52/3150-4
Draw by	Zhang Jie
Checked by	Zhang Tao
Approved by	Pan Yamin

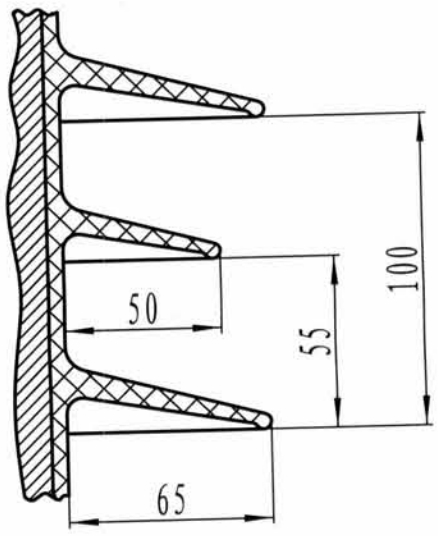
REV. NO	Revision Description	Date
REV. 01	Add test tap details; Add terminal material and packing details on GTP	2015.12.28
REV. 02	①Revise length in oil end from 675 to 685, total length from 1680 to 1690, insulation from 185 to 195; ②revise flange dimension from Φ290 and Φ335 to Φ300 and Φ350; revise mounting hole from 12×Φ15 to 6×Φ20; ③revise diameter of terminal in oil end from Φ14 from Φ18;	2016.1.12
REV. 03	①Revise length in oil end from 685 to 800, total length from 1690 to 1805, insulation from 195 to 310; ②revise thickness of terminal in oil end from 20 from 30;	2016.2.3

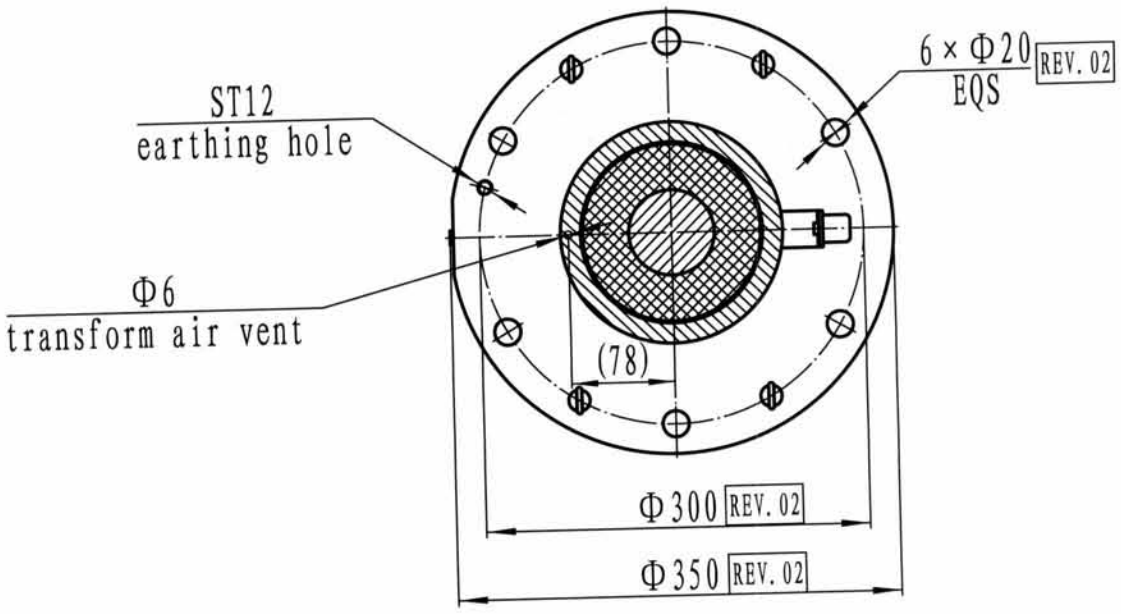
NO.	DESCRIPTION	MATERIAL	QTY.
1	CURRENT-CARRYING POLE	ELECTROLYTIC COPPER	1NO.
2	COVER PLANT	ALUMINUM	1NO.
3	EXTERNAL INSULATION	SILICONE RUBBER COATING	1NO.
4	SLEEVE	ALUMINUM	1NO.
5	FLANGE	ALUMINUM	1NO.
6	INSULATION CORE	RESIN IMPREGNATE PAPER	1NO.
7	SPECIAL NUT	BRASS	1NO.
8	TERMINAL PLATE	BRASS	1NO.

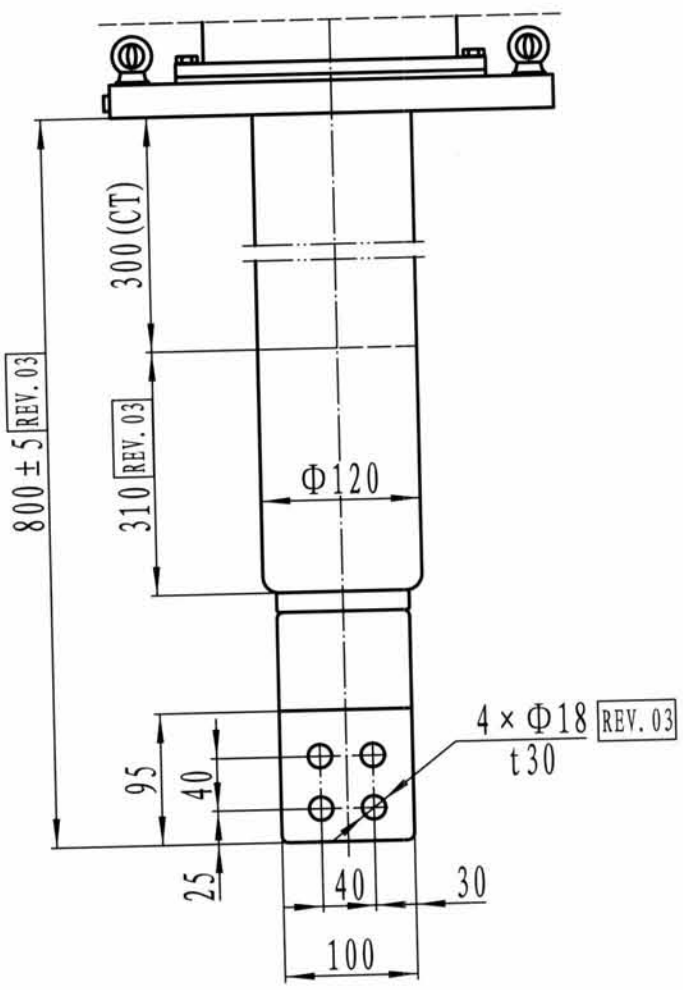


TEST TAP REV. 01









Note : separate drawing is enclosed for test tap details

西安西电高压套管有限公司
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No. 009 East Section of Shiji Road, Xianyang, Shannxi, P.R. China
Tel 86-29-33198086 Fax 86-29-33198038

Guaranteed Technical Parameters for 52kV bushing

DWG./CAT. NO.	75366 REV.03
TYPE NO.	BRFGL1-52/3150-4
TITLE:	RIP Transformer Bushing

1. DESIGN

1.1 BUSHING TYPE	Resin Impregnated Paper
1.2 STANDARD APPLICABLE	IEC 60137-2008
1.3 CONDENSER CORE	Epoxy Resin Impregnated Paper
1.4 CONDUCTOR MATERIAL & CROSS SECTIONAL AREA	Copper & 2827 mm^2
1.5 CURRENT-CARRY FORM	Bottom Connected (Stem Type)
1.6 MAX. TEMPERATURE OF METAL PARTS IN CONTACT WITH OIL AND INSULATING MATERIAL UNDER NORMAL OPERATING CONDITIOIN	120℃
1.7 PAPER	Crepe Paper
1.8 HOUSING	
- MATERIAL:	HTV Silicon Rubber
- SILICON CONTENT:	35%
- TRACK RESISTANCE:	Class 1A4.5 according to IEC 60587
- SHED PROFILE:	Alternate (as drawing enclosed)
- PROCESSING	Injection Moulding
- COLOR	Grey
1.9 TERMINAL	Electrolytic Copper Plated by Silver
1.10 FLANGE	Weather Resistance Aluminum Alloy
1.11 TEST TAP	For capacitance and tan δ measurement; 2.0kV withstand voltage
1.12 MOUNTING ANGLE FROM VERTICAL	$0\sim90^0$
1.13 AMBIENT AIR TEMPERATURE:	-40℃~+50℃
1.14 ALTITUDE	1000m
1.15 CT SPACE	300 mm
1.16 WEIGHT	≈100kg (Approx.)
1.17 PACKING	Complete wooden package; Bottom end fitted with metal housing; (as per Packing Drawing TY-75366BX with packing details)

APPROVED
OFFICE OF SE... MISSION-IV
22 JUN 2018

西安西电高压套管有限公司
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2. TECHNICAL DATA

2.1 HIGHEST VOLTGAE FOR EQUIPMENT(Um)	kV	52
2.2 RATED PHASE TO EARTH VOLTAGE , MAX. SERVICE VOLAGE	kV	30
2.3 RATED FREQUENCY(fr)	HZ	50
2.4 RATED LIGHTNING IMPULSE WITHSTAND VOLTAGE (BIL)	kV	305
2.5 RATED SWITCHING IMPULSE WITHSTAND VOLTAGE (SIL)	kV	/
2.6 RATED CURRENT (Ir)	A	3150
2.7 RATED THERMAL SHORT TIME CURRENT	kA	78.7, 2s
2.8 RATED DYNAMIC CURRENT (Id)	kA	196.7
2.9 CANTILEVEL LOAD	N	3150
2.10 TAN δ	%	< 0.4
2.11 MAX PD LEVEL AT Um	pC	< 10
2.12 CREEPAGE DISTANCE	mm	1612
2.13 ARCING DISTANCE	mm	615

3. ROUTINE TEST VOLTAGE LEVEL

3.1 POWER FREQUENCY WITHSTAND VOLTAGE DRY	kV(r.m.s), 1min	105
3.2 PARTICAL DISCHARGE LEVEL	pC	< 10
3.3 CAPACITANCE AND TAN δ MEASUREMENT;		Tan δ < 0. 4%; C:340 ~ 425 pF
3.4 TEST TAP WITHSTAND VOTLAGE	kV	2.0
3.5 LIGHTNING IMPULSE WITHSTAND VOLTAGE (BIL)	kV(peak), 1.2/50 micro sec	305 neg.
3.6 CHOPPED LIGHTNING IMPULSE WITHSTAND VOLTAGE	kV(peak)	/

APPROVED
OFFICE OF SE/TRANSMISSION-IV
24 JUN 2018

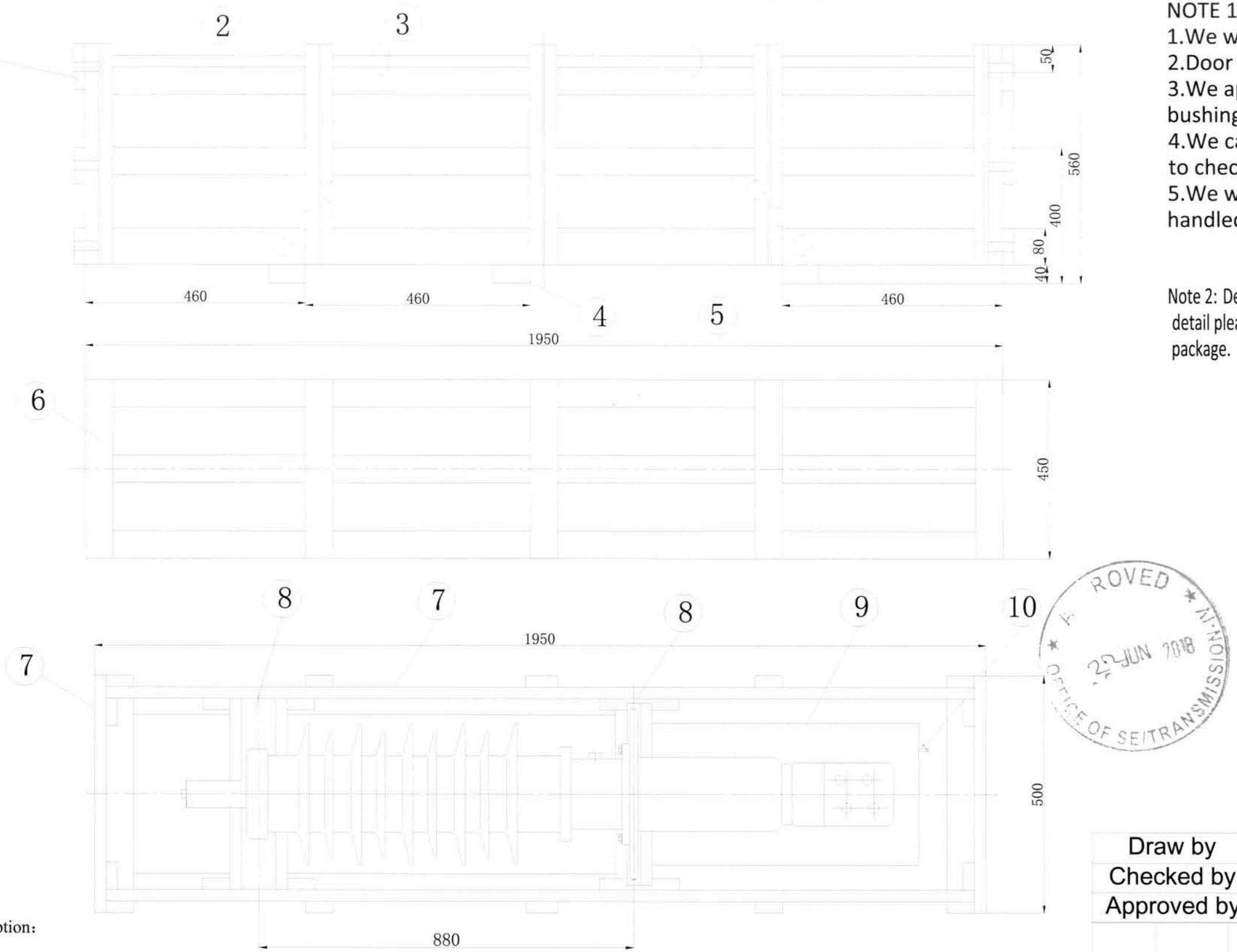
西安西电高压套管有限公司
XIAN XD HIGH VOLTAGE BUSHING CO., LTD.
No. 009 East Section of Shiji Road, Xianyang, Shannxi, P.R. China
Tel 86-29-33198086 Fax 86-29-33198038

4. TYPE TEST VOLTAGE LEVEL

4.1 POWER FREQUENCY WITHSTAND VOLTAGE WET	kV(r.m.s)	95
4.2 LIGHTNING IMPULSE WITHSTAND VOLTAGE (BIL)	kV(peak)	305 pos. 275 neg.
4.3 CHOPPED LIGHTNING IMPULSE WITHSTAND VOLTAGE	kV(peak)	/
4.4 SWITHCING IMPULSE WITHSTAND VOLTAGE (SIL)	kV	/
4.5 PARTICAL DISCHARGE AT Um LEVEL	pC	< 10
4.6 CAPACITANCE AND TAN δ MEASUREMENT		Tan δ < 0. 4%; C:340 ~ 425 pF

5. REMARKS

APPROVED
OFFICE OF SE/TRANSMISSION-IV
22 JUN 2018



NOTE 1:
1.We would prepare pressure gauge at oil end.
2.Door type:hinged type.
3.We apply PVC tube to protect air end of bushing.
4.We can ensure to have enough space for you to check tan delta at 10kV at packed condition.
5.We would prepare suitable drying facility handled by our technician,if in need.

Note 2: Description is a brief of Packing and Unpacking Procedure. For detail please kindly refer to "Manual" which shall be attached in each package.

S.No.	Name	Material
10	charging valve	Steel
9	protecting tube	Steel
8	blocks	pine
7	aide plate	five-ply wood
6	cover plate	five-ply wood
5	bottom plate	five-ply wood
4	bottom beam	pine
3	flexible connection	Steel
2	vertical side plate	pine
1	tranverse side plate	pine

Description:

1. **Net Weight: 100kg,Gross Weight:** 180**kg.**
2. **Package Type:** Complete covered wooden case; PVC sheet liner inside package.
3. **Packing Procedure:** 1) Air side protection: Wind PVC sheet on outdoor part of bushing, puttdrier inside and then seal.
   2) Oil side protection: Steel sheet on oil part bushing, put drier inside and place protection tube; Fill 0.02Mpa dry air into the tube by charging valve(item ⑨).
   3) Lift the bushing body horizontally and put it into the package; Fix the bushing with blocks inside package on place of flange and oil side protection tube.
   4) Cover the package with cover plate(item ⑤); Fix package with steel strip on outside of package.
   5) Stack layers limitation: Two
4. **Unpacking Procedure:** 1) Open the package cover (item ⑤) and pick out the blocks (item ⑦).
   2) Lift the bushing body out of package horizontally.
   3) Detach protecting tube (item ⑧).
   4) Check whether the appearance of bushing is intact or not and then move to next step only.
   5) Detached protecting tube and fixing components shall be preserved in dry and clean condition and make sure of cleanness and desiccation
   6) In case of repacking, the packing procedure shall be as clause 2. "Packing Procedure".

Draw by	Zhang Jie
Checked by	Zhang Tao
Approved by	Pan Yamin

SN	Rev.	Revision Description	Date	Sign

XD HAN'D HIGH VOLTAGE BUSHING CO.,LTD

Packing Case for 52kV 3150A RIP Bushing
Drg No. TY-75366BX Rev. 0.0