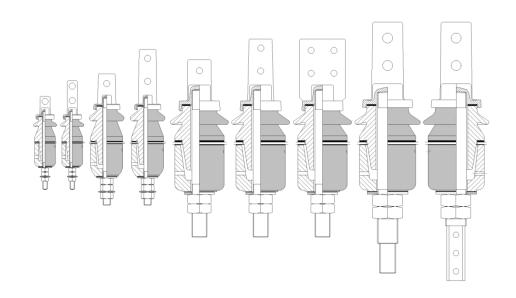


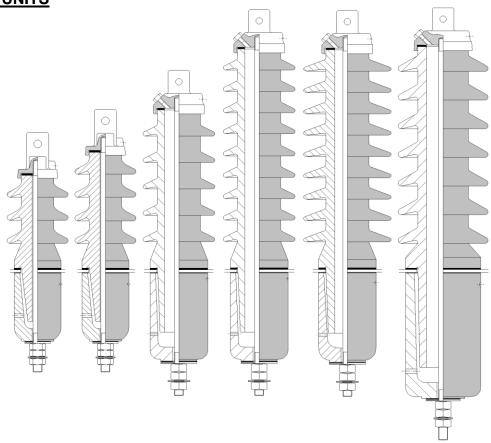
World leader in transformer accessories and premould connectors

ZEP CATALOGUE ON ESAA 2/3/1M BUSHING ASSEMBLIES AND VARIANTS Units supplied in accordance with AS-NZS 60137 - 2008

LV UNITS

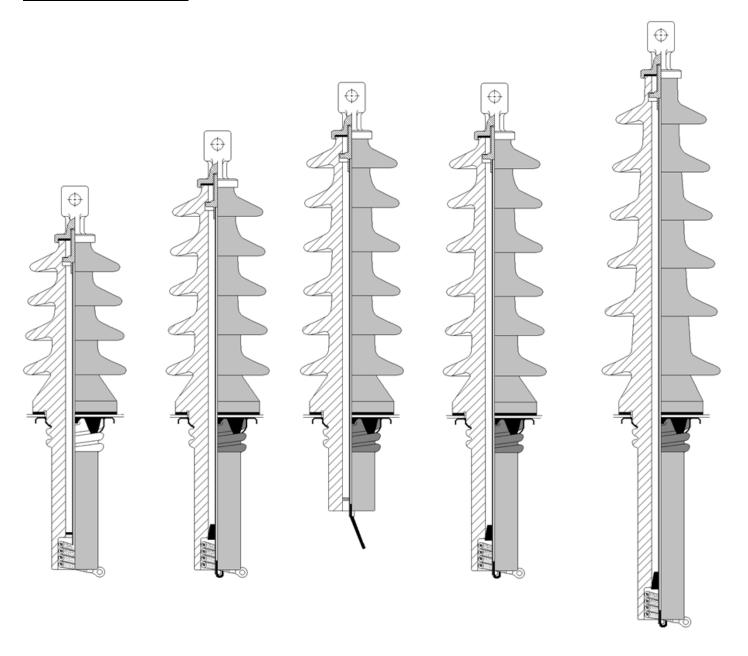


2 PIECE HV UNITS



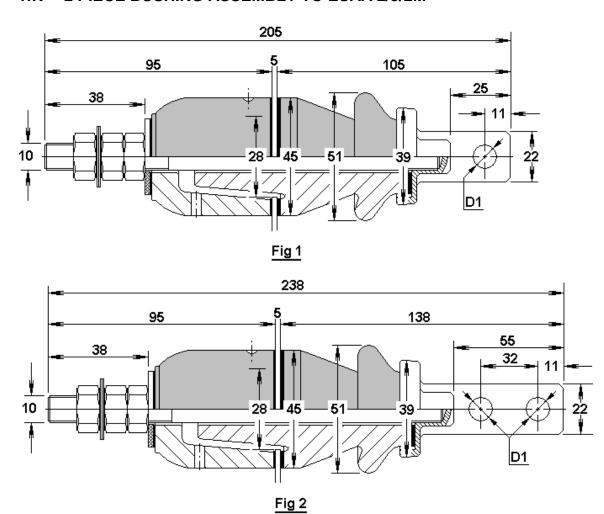


Single Piece HV Units





1kV - 2 PIECE BUSHING ASSEMBLY TO ESAA 2/3/2M

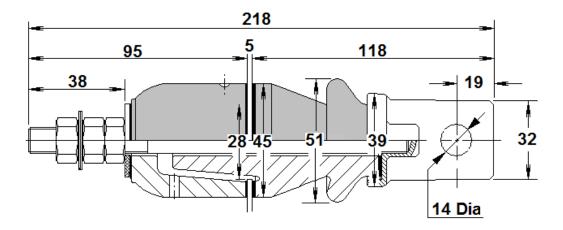


Voltage Rating = 1kV
Current Rating = 167A
Arcing Distance = 60mm
Creep Distance = 70mm
Tank Hole Diameter = 29mm

ZEP PART No.	STEM DIAMETER	STEM MATERIAL	PALM HOLE SIZE (D1)	CURRENT RATING (A)	FIG	MASS (kg)
CU711011	10mm	COPPER	11mm	167	1	0.55
CU711014	10mm	COPPER	14mm	167	1	0.55
CU711028	10mm	COPPER	14mm	167	2	0.57



1kV - 2 PIECE BUSHING ASSEMBLY TO ESAA 2/3/2M - WIDE PALM - SPECIAL

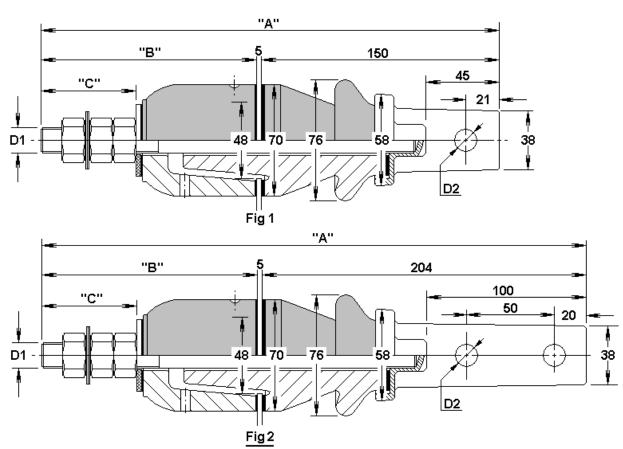


Voltage Rating = 1kV
Current Rating = 167A
Arcing Distance = 60mm
Creep Distance = 70mm
Tank Hole Diameter = 29mm

ZEP PART No.	STEM DIAMETER	STEM MATERIAL	CURRENT RATING (A)	MASS (kg)
CU711014WP	10mm	COPPER	167	0.56



3.3kV - 2 PIECE BUSHING ASSEMBLY TO ESAA 2/3/3M



Voltage Rating = 3.3kV

Current Rating = Refer Chart Below

Arcing Distance = 60mm
Creep Distance = 70mm
Impulse Level = 40kV BIL
Wet Withstand Voltage = 10kV

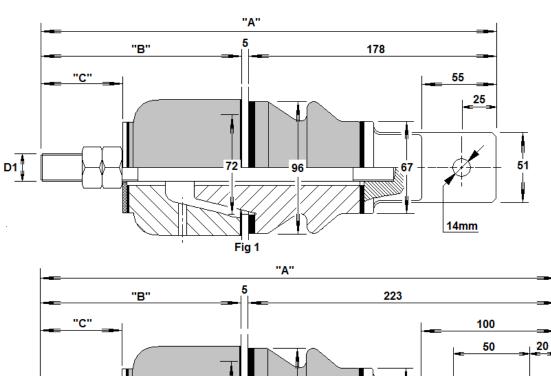
Tank Hole Diameter = 10kV = 48mm

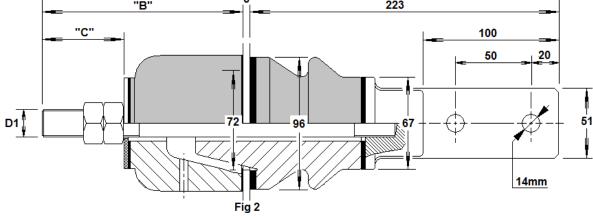
ZEP PART No.	STEM DIA D1	STEM MATERIAL	PALM HOLE SIZE-D2	CURRENT RATING (A)	"A"	"B"	"C"	Fig	MASS (kg)
BR721214	12mm	BRASS	14mm	200	273	118	43	1	1.8
BR721228	12mm	BRASS	14mm	200	327	118	43	2	1.95
BR721614	16mm	BRASS	14mm	300	283	128	53	1	1.85
CU721614	16mm	COPPER	14mm	500	283	128	53	1	1.85
CU721628	16mm	COPPER	14mm	500	337	128	53	2	1.95



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3.3kV - 2 PIECE BUSHING ASSEMBLY SPECIAL





Voltage Rating

Current Rating Arcing Distance

Creep Distance

Impulse Level

Wet Withstand Voltage

Tank Hole Diameter

Porcelain Colour

= 3.3kV

= Refer Chart Below

= 85mm

= 90mm

= 40kV BIL

= 10kV

= 72mm

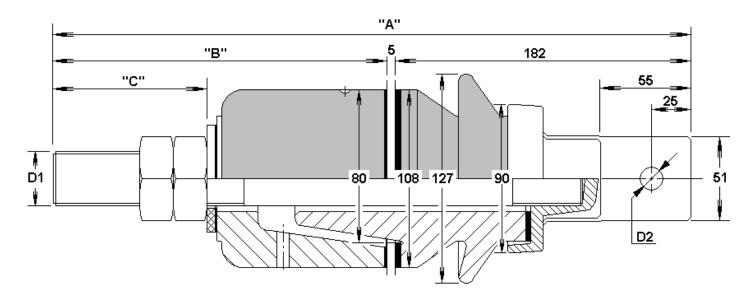
= MUNSELL GREY 5BG - 7.0/0.4

ZEP PART	STEM	STEM	CURRENT				Fig	MASS
No.	DIA D1	MATERIAL	RATING (A)	"A"	"B"	"C"		(kg)
SPEC2014	20mm	COPPER	700	332	190	82	1	4.0
SPEC2414	24mm	COPPER	1050	352	210	102	1	4.25
SPEC3314	33mm	COPPER	1400	397	255	147	1	4.75
SPEC2428	24mm	COPPER	1050	397	210	102	2	4.75
SPEC3328	33mm	COPPER	1400	442	255	147	2	5.25



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3.3kV - 2 PIECE BUSHING ASSEMBLY TO ESAA 2/3/4M



Voltage Rating = 3.3kV

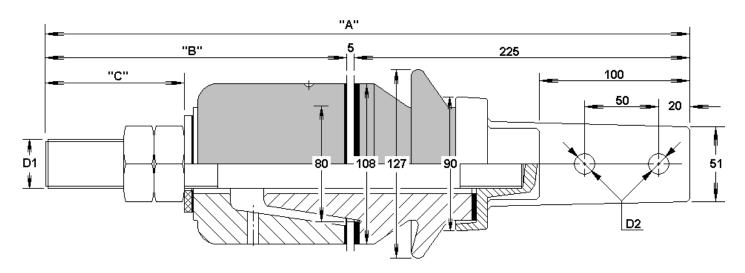
Current Rating = Refer Chart Below

Arcing Distance = 90mm
Creep Distance = 115mm
Impulse Level = 40kV BIL
Wet Withstand Voltage = 10kV
Tank Hole Diameter = 80mm

ZEP PART No.	STEM DIA D1	STEM MATERIAL	PALM HOLE SIZE-D2	CURRENT RATING (A)	"A"	"B"	"C"	MASS (kg)
CU732014	20mm	COPPER	14mm	700	377	190	82	5.1
CU732018	20mm	COPPER	18mm	700	377	190	82	5.1
CU732414	24mm	COPPER	14mm	1050	390	203	95	5.5
CU733314	33mm	COPPER	14mm	1400	395	208	100	6.7



3.3kV - 2 PIECE BUSHING ASSEMBLY TO ESAA 2/3/4M - LONG PALM



Voltage Rating = 3.3kV

Current Rating = Refer Chart Below

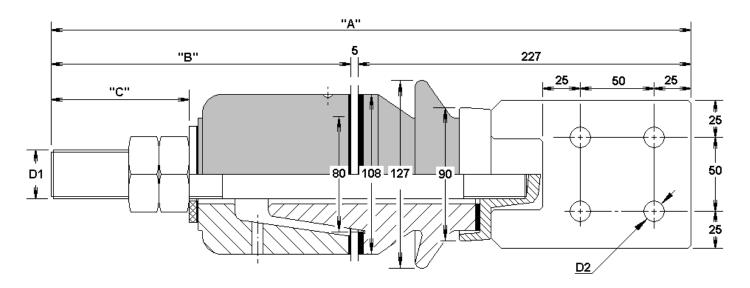
Arcing Distance = 90mm
Creep Distance = 115mm
Impulse Level = 40kV BIL
Wet Withstand Voltage = 10kV

Tank Hole Diameter = 80mm

ZEP PART	STEM	STEM	PALM	CURRENT				MASS
No.	DIA	MATERIAL	HOLE	RATING	"A"	"B"	"C"	(kg)
	D1		SIZE-D2	(A)				,
CU732428	24	COPPER	14	1050	435	205	97	5.85
CU733328	33	COPPER	14	1400	440	210	102	7.00



3.3kV - 2 PIECE BUSHING ASSEMBLY TO ESAA 2/3/4M - SQUARE PALM



Voltage Rating = 3.3kV

Current Rating = Refer Chart Below

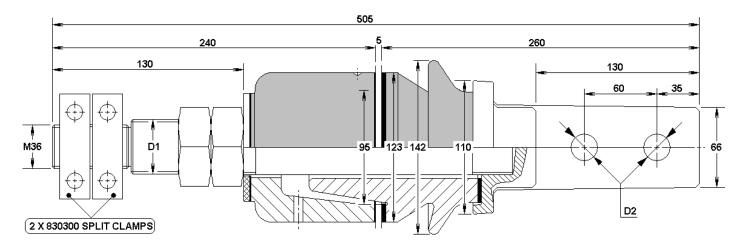
Arcing Distance = 90mm
Creep Distance = 115mm
Impulse Level = 40kV BIL
Wet Withstand Voltage = 10kV

Tank Hole Diameter = 80mm

ZEP PART	STEM	STEM	PALM	CURRENT			_	MASS
No.	DIA	MATERIAL	HOLE	RATING	"A"	"B"	"C"	(kg)
	D1		SIZE-D2	(A)				
CU733356	33	COPPER	14	1400	440	208	135	8.9
CU733656	36	COPPER	14	2000	475	243	130	9.4



3.3kV - 2 PIECE BUSHING ASSEMBLY TO ESAA 2/3/5M



Voltage Rating = 3.3kV

Current Rating = Refer Chart Below

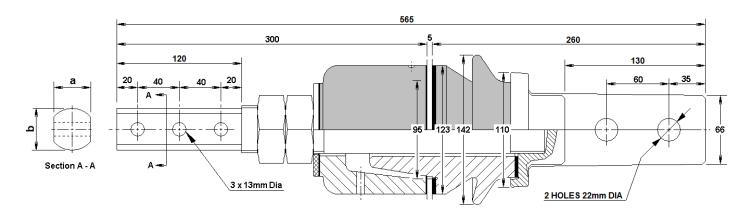
Arcing Distance = 90mm
Creep Distance = 115mm
Impulse Level = 40kV BIL
Wet Withstand Voltage = 10kV

Tank Hole Diameter = 95mm

7ED DADT No	CTEM DIA	CTEM	PALM HOLE	CURRENT	MASS
ZEP PART No.	STEM DIA D1	STEM MATERIAL	SIZE-D2	RATING (A)	(kg)
CU744536B11	45	COPPER	18	2650	13.68
CU744544B11	45	COPPER	22	2650	13.38
CU744844B11	48	COPPER	22	3150	14.00



3.3kV - 2 PIECE BUSHING ASSEMBLY TO ESAA 2/3/5M - SPECIAL



Voltage Rating = 3.3kV

Current Rating = Refer Chart Below

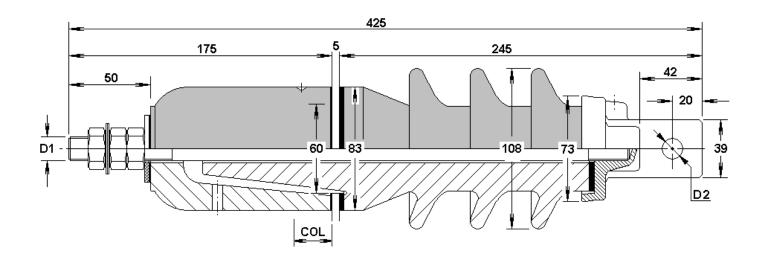
Arcing Distance = 90mm
Creep Distance = 115mm
Impulse Level = 40kV BIL

Wet Withstand Voltage = 10kV Tank Hole Diameter = 95mm

					CURRENT	MASS
ZEP PART No.	STEM	STEM	DIMENSION	DIMENSION	RATING	(kg)
	DIAMETER	MATERIAL	(a)	(b)	(A)	,
CU744544-SPEC	45	COPPER	40	35	2650	13.0
CU744844-SPEC	48	COPPER	44	36	3150	13.5



11kV - 2 PIECE BUSHING ASSEMBLY TO ESAA 2/3/6M



= 11kV

Voltage Rating

Current Rating = Refer Chart Below

Arcing Distance = 175mm
Creep Distance = 285mm
Impulse Level = 95kV BIL

Wet Withstand Voltage = 28kV Pollution Level (IEC 273 / 815) = Level

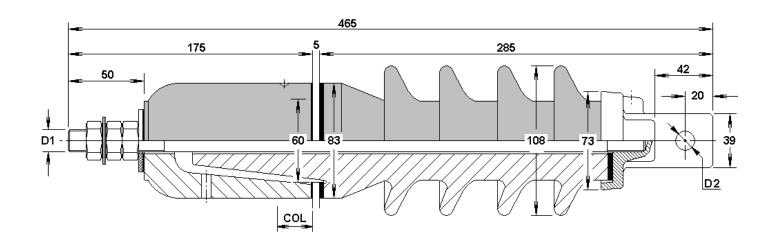
Pollution Level (IEC 273 / 815) = Level 3 – Heavy Pollution Pollution Performance No. (PPN) = 44

Tank Hole Diameter = 60mm

ZEP PART	STEM	STEM	PALM	CURRENT	COLD OIL	MASS
No.	DIAMETER	MATERIAL	HOLE SIZE	RATING	LEVEL	(kg)
	(D1)		(D2)	(A)	(COL)	
BR751211	12mm	BRASS	11mm	200	-19	3.72
BR751214	12mm	BRASS	14mm	200	-19	3.72
BR751614	16mm	BRASS	14mm	300	-19	4.24
CU751614	16mm	COPPER	14mm	500	-19	4.27



.12kV - 2 PIECE BUSHING ASSEMBLY TO ESAA 2/3/6M - LONG CREEP



Voltage Rating = 12kV

Current Rating = Refer Chart Below

Arcing Distance = 225mm
Creep Distance = 345mm
Impulse Level = 125kV BIL

Wet Withstand Voltage = 28kV

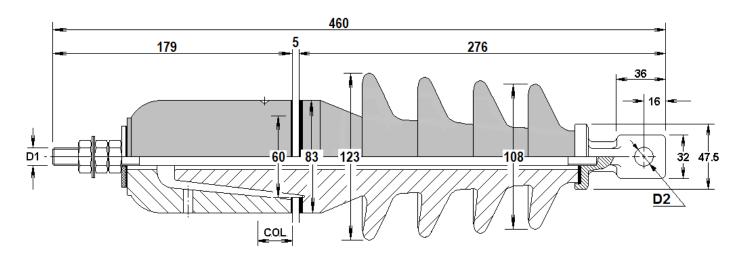
Pollution Level (IEC 273 / 815) = Level 4 – Very Heavy Pollution Pollution Performance No. (PPN) = 93

Pollution Performance No. (PPN) = 93 Tank Hole Diameter = 60mm

ZEP PART	STEM	STEM	PALM	CURRENT	COLD OIL	MASS
No.	DIAMETER	MATERIAL	HOLE SIZE	RATING	LEVEL	(kg)
	(D1)		(D2)	(A)	(COL)	
BR121211	12mm	BRASS	11mm	200	-19	4.5
BR121214	12mm	BRASS	14mm	200	-19	4.5
BR121614	16mm	BRASS	14mm	300	-19	4.7
CU121614	16mm	COPPER	14mm	500	-19	4.7



12kV - 2 PIECE TAPERED SHED GENERALLY IN ACCORDENCE WITH ESAA 2/3/6M



Voltage Rating = 12kV

Current Rating = Refer Chart Below

Arcing Distance = 235mm
Creep Distance = 410mm
Impulse Level = 125kV BIL

Wet Withstand Voltage = 28kV

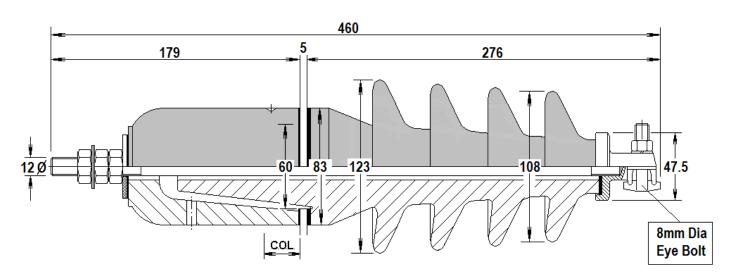
Pollution Level (IEC 273 / 815) = Level 4 – Very Heavy Pollution

Pollution Performance No. (PPN) = 120 Tank Hole Diameter = 60mm

ZEP PART	STEM	STEM	PALM	CURRENT	COLD OIL	MASS
No.	DIAMETER	MATERIAL	HOLE SIZE	RATING	LEVEL	(kg)
	(D1)		(D2)	(A)	(COL)	
TSMS121211	12mm	Mild Steel	11mm	30	-19	3.9
TSMS121214	12mm	Mild Steel	14mm	30	-19	3.9
TSBR1211	12mm	BRASS	11mm	200	-19	3.8
TSBR1214	12mm	BRASS	14mm	200	-19	3.8



12kV - 2 PIECE TAPERED SHED GENERALLY IN ACCORDENCE WITH ESAA 2/3/6M COMPLETE WITH 8mm DIAMETER EYE BOLT.



= 12kV

Voltage Rating

Current Rating = Refer Chart Below

Arcing Distance = 235mm
Creep Distance = 410mm
Impulse Level = 125kV BIL

Wet Withstand Voltage = 28kV

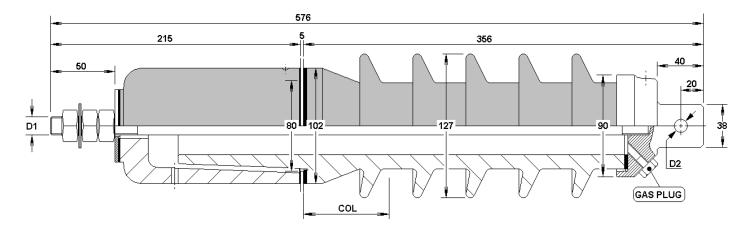
Pollution Level (IEC 273 / 815) = Level 4 – Very Heavy Pollution

Pollution Performance No. (PPN) = 93 Tank Hole Diameter = 60mm

ZEP PART No.	STEM DIAMETER	STEM MATERIAL	CURRENT RATING (A)	COLD OIL LEVEL (COL)	MASS (kg)
TSMS1212EB	12mm	Mild Steel	30	-19	3.9



22kV - 2 PIECE BUSHING ASSEMBLY TO ESAA 2/3/7M



Voltage Rating

Current Rating

Arcing Distance Creep Distance Impulse Level

Wet Withstand Voltage

Pollution Level (IEC 273 / 815)

Pollution Performance No. (PPN)

Tank Hole Diameter

Porcelain Colour

= 22kV

= Refer Chart Below

= 290mm

= 480mm

= 150kV BIL

= 50kV

= Level 2 - Medium Pollution

= 30 = 80mm

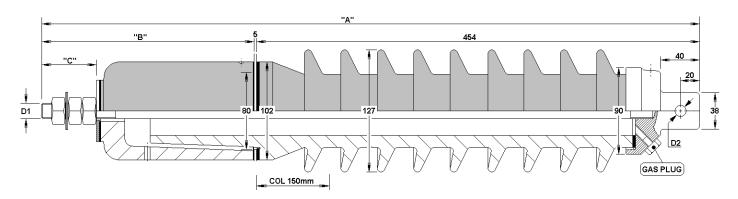
- 00111111

= MUNSELL GREY 5BG - 7.0/0.4

ZEP PART	STEM	STEM	PALM	CURRENT	COLD OIL	WEIGHT
No.	DIAMETER	MATERIAL	HOLE SIZE	RATING	LEVEL	EACH
	(D1)		(D2)	(A)	(COL)	(kg)
BR241211	12mm	BRASS	11mm	200	+76	6.65
BR241214	12mm	BRASS	14mm	200	+76	6.65
BR241614	16mm	BRASS	14mm	300	+76	7.05
CU241614	16mm	COPPER	14mm	500	+76	7.10



33kV - 2 PIECE BUSHING ASSEMBLY TO ESAA 2/3/7M - EXTENDED CREEP #81 ASSY



Voltage Rating = 33kV

Current Rating = Refer Chart Below

Arcing Distance = 400mm
Creep Distance = 700mm
Impulse Level = 200kV BIL

Wet Withstand Voltage = 70kV

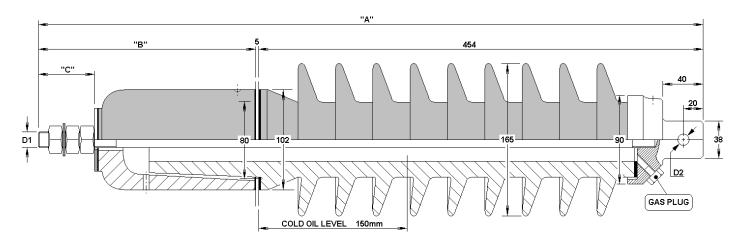
Pollution Level (IEC 273 / 815) = Level 2 – Medium Pollution

Pollution Performance No. (PPN) = 24.5 Tank Hole Diameter = 80mm

ZEP PART	STEM	STEM	PALM	CURRENT				WEIGHT
No.	DIA D1	MATERIAL	HOLE	RATING	"A"	"B"	"C"	EACH
			SIZE-D2	(A)				(kg)
BR811011	10	COPPER	11mm	167	680	220	55	8.8
BR811214	12	BRASS	14mm	200	680	220	55	9.0
BR811614	16	BRASS	14mm	300	685	225	60	9.45
CU811611	16	COPPER	11mm	500	685	225	60	9.45
CU811614	16	COPPER	14mm	500	685	225	60	9.45



33kV - 2 PIECE BUSHING ASSEMBLY TO ESAA 2/3/7M - EXTENDED CREEP #82 ASSY



Voltage Rating = 33kV

Current Rating = Refer Chart Below

Arcing Distance = 400mm
Creep Distance = 1067mm
Impulse Level = 200kV BIL
Wet Withstand Voltage = 70kV

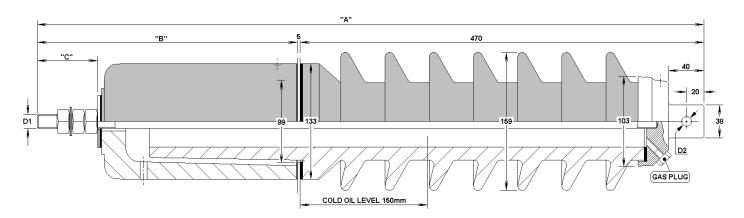
Pollution Level (IEC 273 / 815) = Level 4 – Very Heavy Pollution

Pollution Performance No. (PPN) = 83 Tank Hole Diameter = 80mm

ZEP PART	STEM	STEM	PALM	CURRENT				MASS
No.	DIA D1	MATERIAL	HOLE	RATING	"A"	"B"	"C"	(kg)
			SIZE-D2	(A)				
BR821011	10mm	COPPER	11mm	167	680	220	55	12.4
BR821214	12mm	BRASS	14mm	200	680	220	55	12.6
BR821614	16mm	BRASS	14mm	300	680	220	55	13.1
CU821614	16mm	COPPER	14mm	500	685	225	60	13.1



33kV - 2 PIECE BUSHING ASSEMBLY TO ESAA 2/3/8M - #78 ASSY



= 33kV

Voltage Rating

Current Rating = Refer Chart Below

Arcing Distance = 400mm
Creep Distance = 780mm
Impulse Level = 200kV BIL

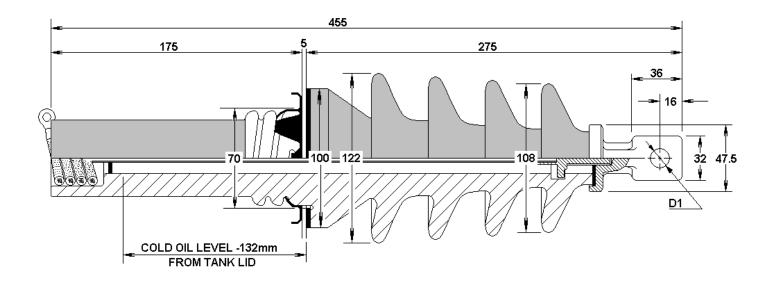
Wet Withstand Voltage = 70kV
Pollution Level (IEC 273 / 815) = Level 2 -Medium Pollution

Pollution Performance No. (PPN) = 27
Tank Hole Diameter = 99mm

ZEP PART	STEM	STEM	PALM	CURRENT				MASS
No.	DIA D1	MATERIAL	HOLE	RATING	"A"	"B"	"C"	(kg)
			SIZE-D2	(A)				
BR781611	16mm	BRASS	11mm	300	761	290	50	14.5
BR781614	16mm	BRASS	14mm	300	761	290	50	14.55
CU781614	16mm	COPPER	14mm	500	761	290	50	14.55



12kV - SINGLE PIECE BUSHING ASSEMBLY



Voltage Rating = 12kV
Current Rating = 30A
Arcing Distance = 235mm
Creep Distance = 410mm
Impulse Level = 125kV BIL

Wet Withstand Voltage = 28kV

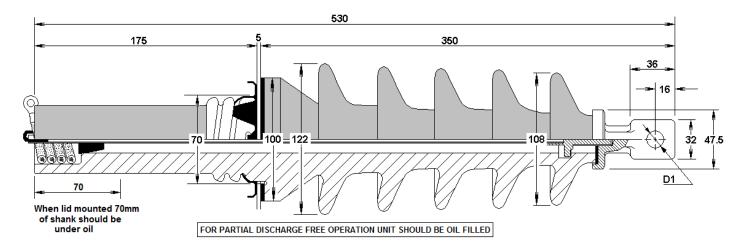
Pollution Level (IEC 273 / 815) = Level 4– Very Heavy Pollution Pollution Performance No. (PPN) = 125

Tank Hole Diameter = 70mm

ZEP PART	PALM	CURRENT	MASS
No.	HOLE D1	RATING	(kg)
	(mm)	(A)	
TS120011	11	30	3.65
TS120014	14	30	3.65



22kV - SINGLE PIECE BUSHING ASSEMBLY



Voltage Rating = 22kV
Current Rating = 30A
Arcing Distance = 290mm
Creep Distance = 535mm
Impulse Level = 150kV BIL
Wet Withstand Voltage = 50kV

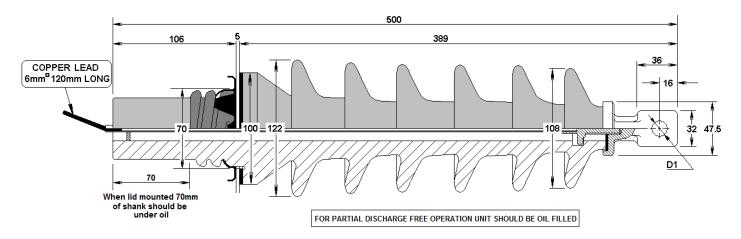
Wet Withstand Voltage = 50kV Pollution Level (IEC 273 / 815) = Level 2– Medium Pollution

Pollution Performance No. (PPN) = 34 Tank Hole Diameter = 70mm

ZEP PART	PALM HOLE	CURRENT	MASS
No.	D1	RATING	(kg)
	(mm)	(A)	, ,,
TS240011AP	11	30	4.45
TS240014AP	14	30	4.45



22kV - SINGLE PIECE BUSHING ASSEMBLY -SHORT SHANK - 600mm CREEP



Voltage Rating = 22kV
Current Rating = 30A
Arcing Distance = 340mm
Creep Distance = 600mm
Impulse Level = 150kV BIL

Wet Withstand Voltage = 50kV

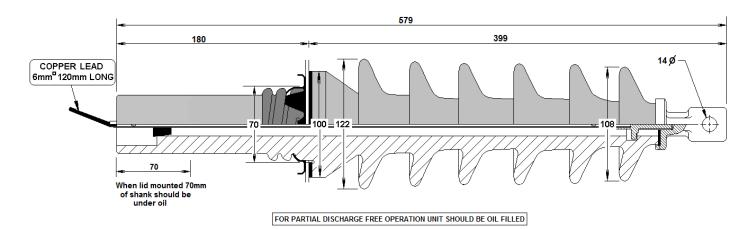
Pollution Level (IEC 273 / 815) = Level 3- Heavy Pollution

Pollution Performance No. (PPN) = 54 Tank Hole Diameter = 70mm

ZEP PART	PALM HOLE	CURRENT	MASS
No.	D1	RATING	(kg)
	(mm)	(A)	
TS241114SS	14	30	4.30



22kV - SINGLE PIECE BUSHING ASSEMBLY - 600mm CREEP



Voltage Rating = 22kV
Current Rating = 30A
Arcing Distance = 340mm
Creep Distance = 600mm
Impulse Level = 150kV BIL
Wet Withstand Voltage = 50kV

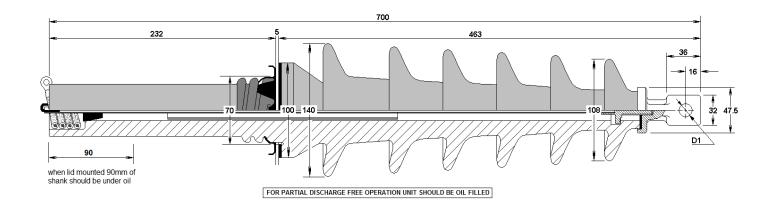
Pollution Level (IEC 273 / 815) = Level 3- Heavy Pollution

Pollution Performance No. (PPN) = 54 Tank Hole Diameter = 70mm

ZEP PART	PALM	CURRENT	MASS
No.	HOLE	RATING (A)	(kg)
TS241114LS	14mm	30	4.80



33kV - SINGLE PIECE BUSHING ASSEMBLY



Voltage Rating = 33kV
Current Rating = 30A
Arcing Distance = 400mm
Creep Distance = 700mm
Impulse Level = 170kV BIL
Wet Withstand Voltage = 70kV

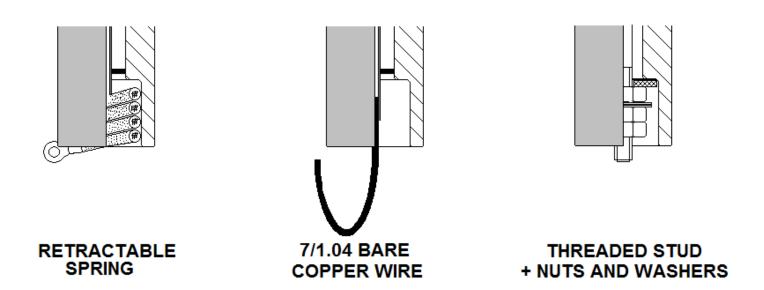
Pollution Level (IEC 273 / 815) = Level 2– Medium Pollution

Pollution Performance No. (PPN) = 22 Tank Hole Diameter = 70mm

ZEP PART	PALM HOLE	CURRENT	MASS
No.	D1	RATING	(kg)
	(mm)	(A)	
TS360014AP	14	30	6.60



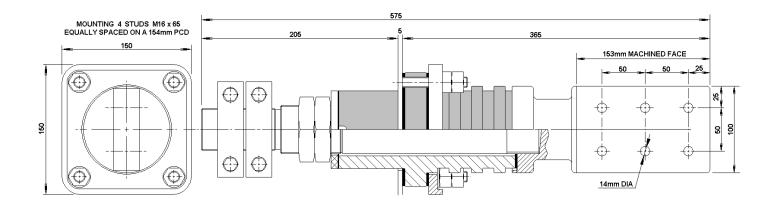
INTERNAL CONNECTION OPTIONS ON SINGLE PIECE BUSHING ASSEMBLIES



CONTACT ZEP OFFICE FOR MORE DETAILS ON UNITS AVAILABLE IN THE RANGE



3.6kV - HIGH CURRENT BUSHING ASSEMBLY



Voltage Rating Current Rating Arcing Distance Creep Distance Impulse Level **Wet Withstand Voltage Tank Hole Diameter**

Porcelain Colour

= 3.6kV

= REFER CHART

= 140mm

= 66mm

= 40kV BIL

= 10kV

= 94mm

= MUNSELL GREY 5BG - 7.0/0.4

ZEP PART No.	CURRENT RATING	TOTAL MASS
	(A)	(kg)
SPSQ4884	3300	15.85
SPSQ5684	4500	21.90

All information contained is subject to change without notice.