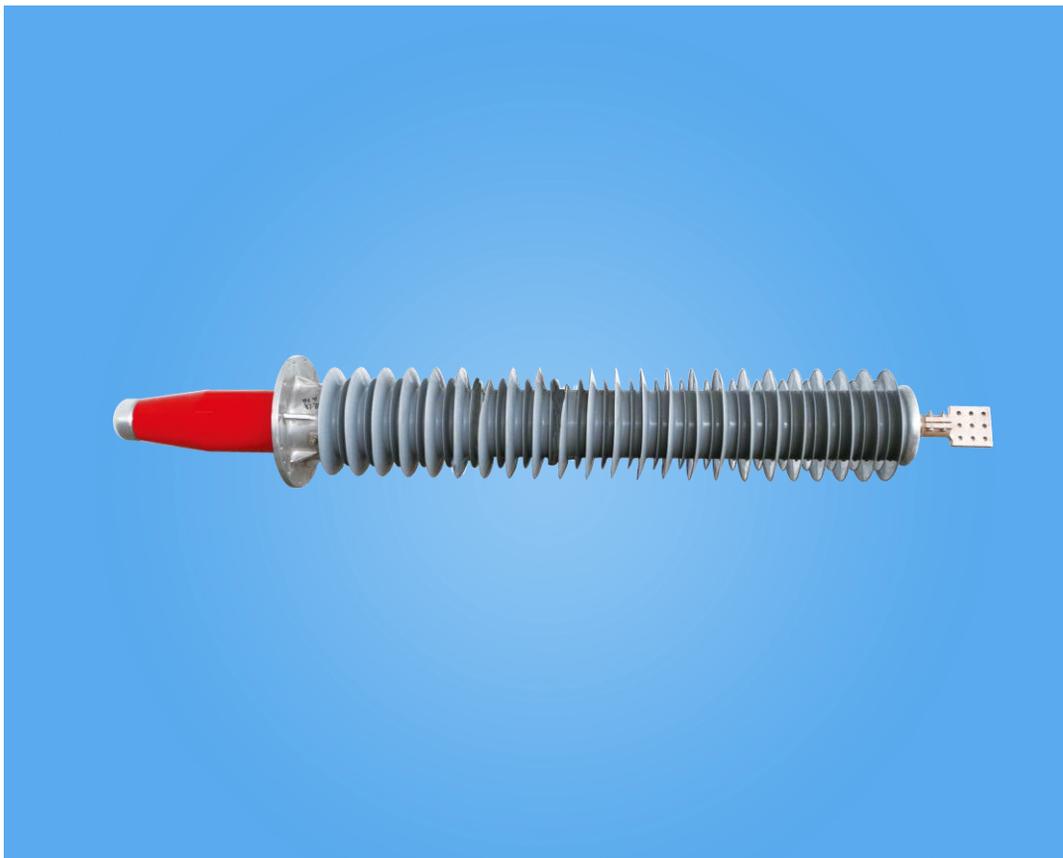


# 35~500 kV Dry Type GIS Lead-out Bushing with Silicone Rubber Insulator



## Product Manual



Chinsun Electric  
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Chinsun  
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## 1.Introduction

EGRG dry type GIS bushing, is an improved product on the basis of the dry bushings from the former China Electric Power Research Institute. The bushings are with following advantages: no oil, no gas, no SF<sub>6</sub> gas, small volume, light weight, free for maintenance. With a large insulation margin, higher corona voltage, no partial discharge in operation. Refractory insulation material, no decomposition, stable electric performance, no danger of burning or blast. Small volume, light weight, easy for transportation, can be installed at any angle. Mechanics optimized design, high bending strength, can be applied in heavy earthquake area. The former institute research become mass production, and fine quality is therefore guaranteed. Experiences on more different bushings are also accumulated, such as high current bushing, special-shaped bushings, bushings for high voltage apparatus.

## 2.Application condition

1. The bushings are applied in area that altitude no higher than 1000m, technical condition shall be negotiated by both side if for altitude above 1000m.
2. The ambient temperature should be within  $\pm 50^{\circ}\text{C}$ .

## 3.Technical Standard

Products are in compliance with GB/T 4109-2008 (IEC 60137 MOD)-Insulated bushings for alternating voltages above 1 000 V.

### (1)Insulation withstand voltage test

Rated voltage	40.5	72.5	126	252	363	550
Norminal voltage	35	66	110	220	330	500
1 min dry power frequency withstand voltage	95	147	230	460	570	750
Lighting impulse withstand voltage	200	325	550	1050	1175	1550
Bend loading	2000	2000	5000	6000	6000	6000
Rated current	1-31500					
tan $\delta$	Increased value	$\leq 0.001$				
	Max value	$\leq 0.007$				
Partial discharge	$\leq 10$					

#### **4.Notice:Transportation&installation.**

(1).Bushings should be covered with plastic bags,placed onto wooden frame,be transported together with wooden case.

(2).Bushings should be handled care during installation in case any damage to the housing and shed insulator,the plastic bags should be removed when installation is finished,then wipe bushings by soft silk cloth to clean.

(3).Pay attention to the boundary(boundary:from flange side to the fist shed) ,wall (or steel palate) and assorted current transformer should be limited to the boundary.

(4).Tie the flange part with nylon rope when lifting&installation,be careful in case any damage to housing or shed.For the assorted current transformer,usually the CT should be installed in advance to indoor wall,then let bushing through the wall.For heavy bushing with CT on it,lifting the CT part,don't lift the ends of bushings.

#### **5.Check and maintenance**

(1).Before acceptance check or operation,power frequency voltage withstand test,measurement of dielectric dissipation and electrical capacity should be done.Applied voltage to power frequency voltage withstand test shell be the 80% of routine test.Measurement of dielectric dissipation and electrical capacity should be processed under a fine weather condition,in case the bushing surface is humid and effect the result.(better to test under condition which relative humidity continuous less than 40% within 48 hours.Bushings' organic insulation surface is easily affected by humidity.Usually the measurement should be less than 0.01.)

(2).The bushings are basicaly free of maintenance.It's will be favorable to bushings if measurement of dielectric dissipation and electrical capacity can be done every 2-3 years.In the measurement,length of lead wire should be shorten as possible to avoid error.Live line detecting to ground current of bottom shield bushing also is OK.

(3).Better to flush the surface or wipe by silk cloth in case scratch.

## **6.Attachment**

Bushings are with quality certificate,routine test report and installation instruction.

## **7.Construction and dimension(see attachment)**

## **8.Ordering particulars**

(1)When ordering,please state:

\*Rated voltage

\*Rated current

\*Environment pollution level

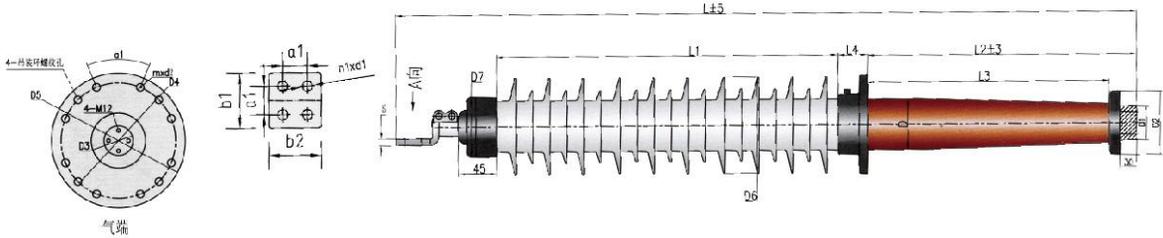
\*Installation way(horizontal or vertical)

\*If with assorted current transformer

(2)Bushings can be designed as per customers' requirement



# 72.5kV-252kV Dry Type FRP GIS Bushing



Technical standards	GB/T 4109-2008	IEC 60137 Ed. 6.0	
Rated voltage	72.5kV	126kV	252kV
Rated current	630-1250A		
1min power frequency dry(wet) voltage withstand	155kV	255kV	550kV
Full-wave impulse withstand voltage of lightning	325kV	550kV	1050kV
Operation impulse withstand voltage	850kV		
Under 1.05 times of maximum phase voltage tan δ	≤0.004		
Partial discharge under the rated voltage	≤10pC		
Bending resistant test load	2000N	3150N	4000N
The minimum nominal creepage distance	31mm/kV		

Main dimension Type	Total length of casing L	Air side							Flange					SF6 side					Casing weight kg	
		n1×d1	a1	b1×b2	δ	L1	D6	D7	D4	D5	L4	m×d2	a1	L2	L3	D	D1	D2		D3
FGRG72.5/630-1250	1145	4×18	50	100×100	14	750	220	140	290	335	150	8×16	45	330	260	120	99	128	70	50
FGRG72.5/1600-2000	1470	4×18	50	100×100	16	750	220	140	290	335	150	8×16	45	330	260	120	99	128	70	64
FGRG72.5/2500	1470	4×18	50	100×100	20	750	220	140	290	335	150	8×16	45	330	260	120	99	128	70	66
FGRG126/630-1250	2040	4×18	50	100×100	14	1150	290	128	290	335	150	8×16	45	520	450	148	99	128	70	90
FGRG126/1600-2000	2060	4×18	50	100×100	16	1150	290	128	290	335	150	8×16	45	520	450	148	99	128	70	108
FGRG126/2500	2060	4×18	50	100×100	20	1150	290	128	290	335	150	8×16	45	520	450	148	99	128	70	110
FGRG252/630-1250	3420	4×18	50	100×100	14	2240	435	325	500	550	180	12×24	30	770	670	260	139	168	110	415
FGRG252/1600-2000	3420	4×18	50	100×100	16	2240	435	325	500	550	180	12×24	30	770	670	260	139	168	110	425
FGRG252/2500	3420	4×18	50	100×100	20	2240	435	325	500	550	180	12×24	30	770	670	260	139	168	110	460

Note: The outline dimension of the product in the table is recommended, all size can be designed according to the needs of users. Only one kind of CT length is listed on the table, and the user can design the CT length according to the product requirements. With the changes of CT length, relevant dimensions also change.