

POWER SYSTEM

Hivolt®

Dalian Hivolt

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DALIAN HIVOLT POWER SYSTEM CO., LTD

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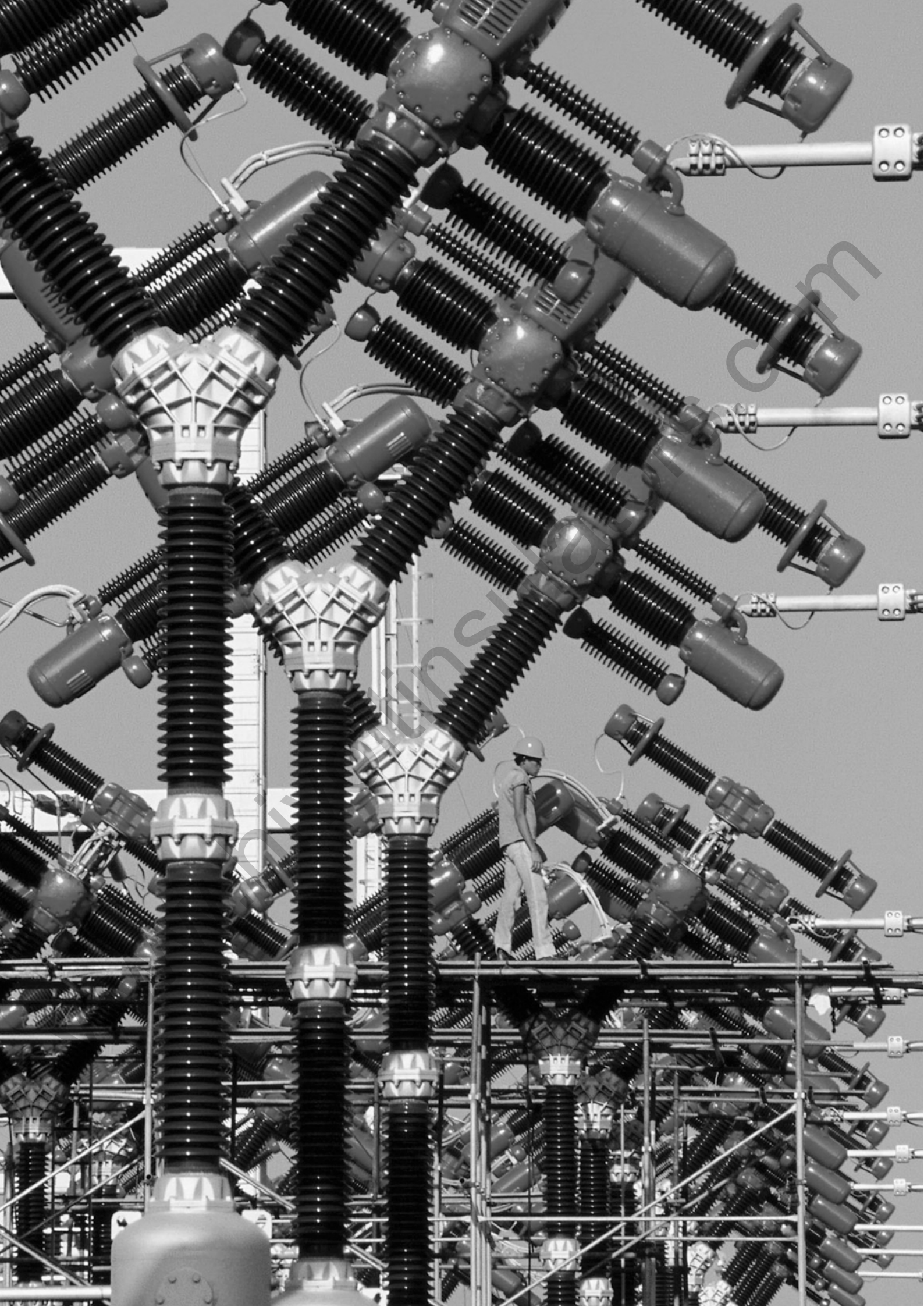
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BRIEF INTRODUCTION

Hivolt®

Dalian Hivolt Power System Co., Ltd. was established in 1992, has 460 experienced staff, with headquarter in Dalian City, China. We are reputable manufacturer for porcelain insulators, composite insulators.

We have modern manufacturing facilities and test equipments, which can guarantee every piece of product is well controlled. Our insulators have been running many years in China Power Grid up to 750kV transmission lines and substations without negative report.

With growing business, the overseas market had a rapid increasing. we have exported our products to more than 30 countries and regions: North American countries & South American countries, Europe, Russia and middle east countries etc.

We already set up long term and multi-benefit cooperation with our reputable customers, for example: ABB, GE etc.

• Our products include:

• Porcelain insulators:

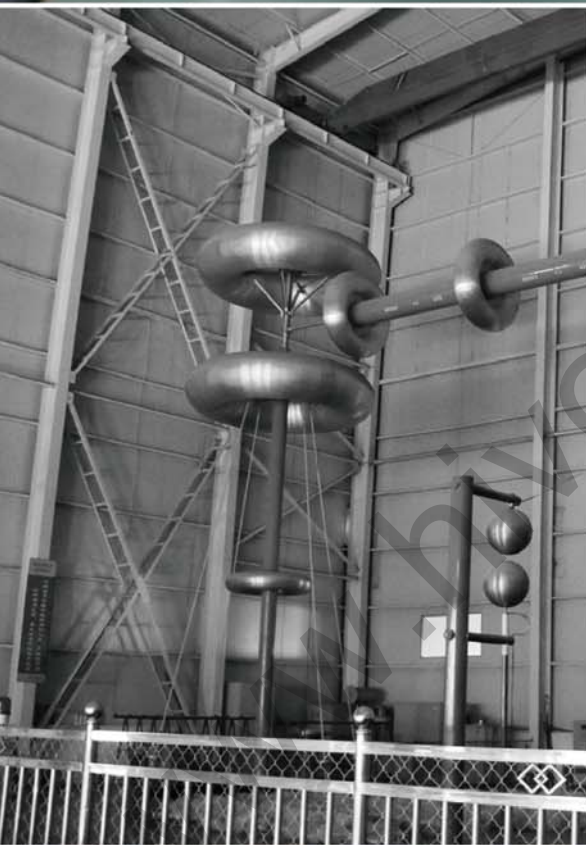
- 1) Line insulators: suspension insulators (both normal type and fog type), line post insulators, pin type insulators etc. for up to 750KV transmission lines.
- 2) Insulators for substations: station post insulator (both wet process and isostatic press shaping method) for up to 750KV class; hollow insulators for Current Transformers, SF6 breakers, Surge arresters, Capacitors etc. up to 1000 KV.
- 3) Electrical Apparatus: fuse cutout up to 35KV, transformer bushings, surge arresters up to 220KV.

• Silicone rubber insulators:

Longrod insulators up to 750KV.
Station post insulators, pin type insulators etc.
Deadend insulators.

We are ISO 9001 certified company, The high quality products & most reasonable price gain us good reputation. we can offer 3 years product quality guarantee from shipment date.

We sincerely hope to establish solid relationship with customers and finalize the multi-benefit cooperations



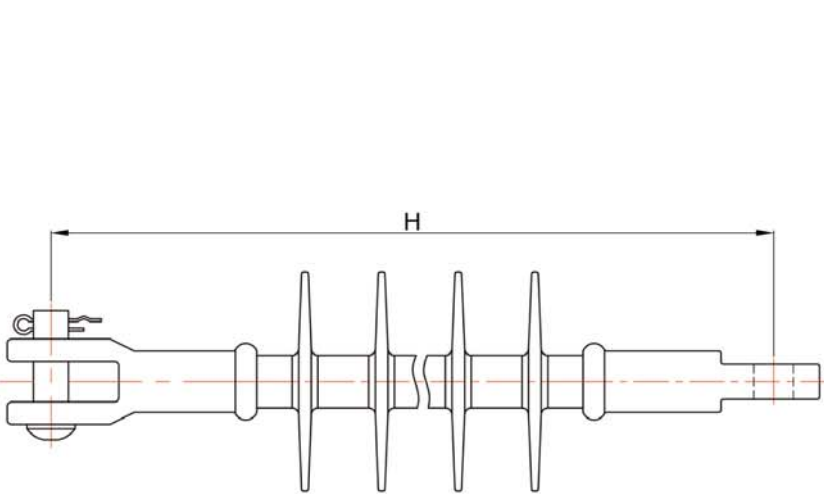


FIG 1.1

1. Deadend Insulators

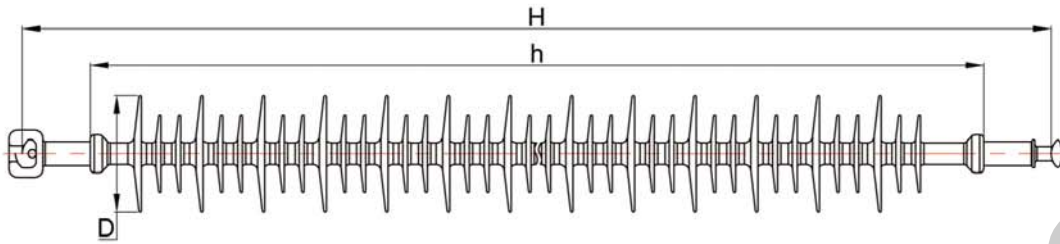
Type			HFXBW-15/70	HFXBW-28/70	HFXBW-35/70	HFXBW-46/70	HFXBW-69/70
Figure. No			1.1				
Section Length(H)		mm	330± 15	430± 15	525± 15	590± 15	750± 15
Creepage distance		mm	355	550	730	900	1190
Low frequency Flashover Voltage	Dry	kV	90	130	145	180	220
	Wet	kV	65	100	130	145	185
Critical Impulse Flashover Voltage Positive		kV	140	190	250	280	360
Radio influence voltage	Test voltage	kV	15	20	30	30	45
	Max. RIV at 1MHz	μ V	10	10	10	10	10
Specified Mechanical Load		LB	15000	15000	15000	15000	15000
Torsional Load		FT-LB	35	35	35	35	35
Standard			ANSI C29.13				

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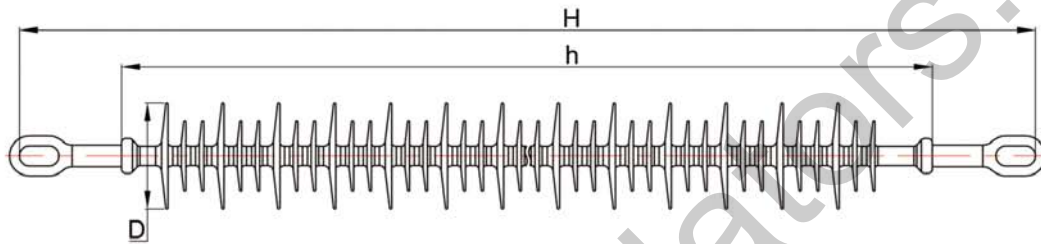


2.Composite Suspension / Tension Insulators for Transmission Line

Model	Figure. No	Rated Voltage	Coupling Size	Section Length	Insulating Length	Max. Shed Diameter
		kV		H(mm)	h(mm)	D(mm)
HFXBW-66/70-870	2.1.1 2.1.2	66	16	870± 15	700	145
HFXBW-66/70-870		66	16	870± 15	700	162
HFXBW-66/70-940		66	16	940± 15	740	162
HFXBW-66/100-870		66	16	870± 15	670	145
HFXBW-66/100-870		66	16	870± 15	670	162
HFXBW-66/100-940		66	16	940± 15	740	162
HFXBW-66/120-870		66	16	870± 15	670	162
HFXBW-66/120-870		66	16	870± 15	670	145
HFXBW-66/120-940		66	16	940± 15	740	162
HFXBW-66/120-1066		66	16	1066± 15	880	145



■ FIG 2.1.1



■ FIG 2.1.2



Composite Long Rod Insulators

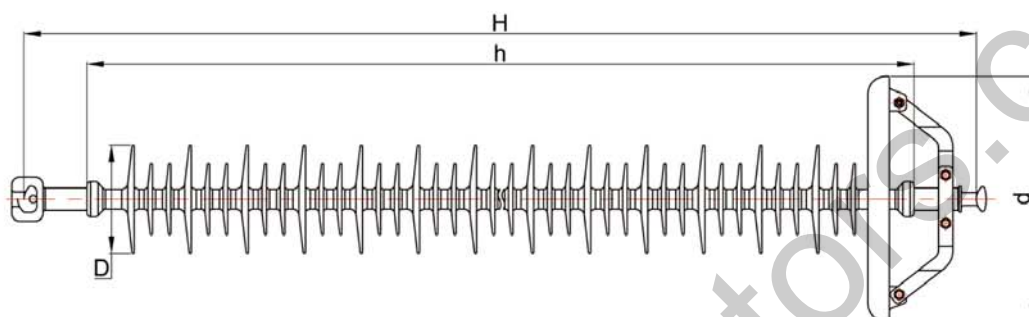
2.1 66kV Composite Suspension / Tension Insulators

Creepage Distance	Lightning Impulse Withstand Voltage	1 Min Wet Power Frequency Withstand Voltage	Specified Mechanical Load	Weight	Standard
mm	kV	kV	kN	kg	
2000	410	185	70	3.6	IEC 61109 ANSI C29.11 ANSI C29.12
1920	410	185	70	3.3	
2200	410	185	70	3.7	
2000	410	185	100	3.6	
1920	410	185	100	3.3	
2200	410	185	100	3.7	
1920	410	185	120	3.3	
2000	410	185	120	3.6	
2200	410	185	120	3.7	
2800	410	185	80	4.5	



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▪ FIG 2.2.1

2.Composite Suspension / Tension Insulators for Transmission Line

Model	Figure. No	Rated Voltage	Coupling Size	Section Length	Insulating Length	Max. Shed Diameter
		kV		H(mm)	h(mm)	D(mm)
HFXBW-110/70	2.2.1	110	16	1240± 15	1025	162
HFXBW-110/100		110	16	1240± 15	1020	162
HFXBW-110/100		110	16	1380± 15	1125	171
HFXBW-110/160		110	20	1380± 15	1115	171
HFXBW-132/70		132	16	1480± 15	1270	162
HFXBW-132/100	2.2.2	132	16	1480± 15	1260	162
HFXBW-132/100	2.2.3	132	16	1480± 15	1225	171
HFXBW-132/160		132	20	1480± 15	1215	171
HFXBW-220/100		220	16	2240± 30	1950	171
HFXBW-220/120		220	16	2340± 30	1950	171
HFXBW-220/160		220	20	2340± 30	1950	171
HFXBW-220/180		220	20	2340± 30	1950	171
HFXBW-220/210		220	20	2340± 30	1950	171

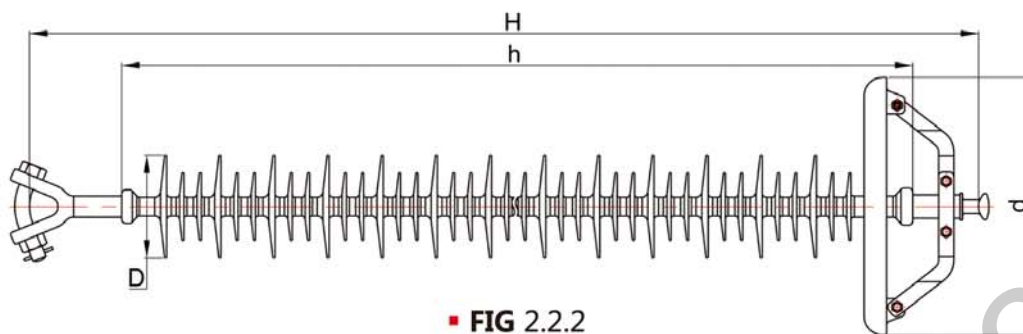


FIG 2.2.2

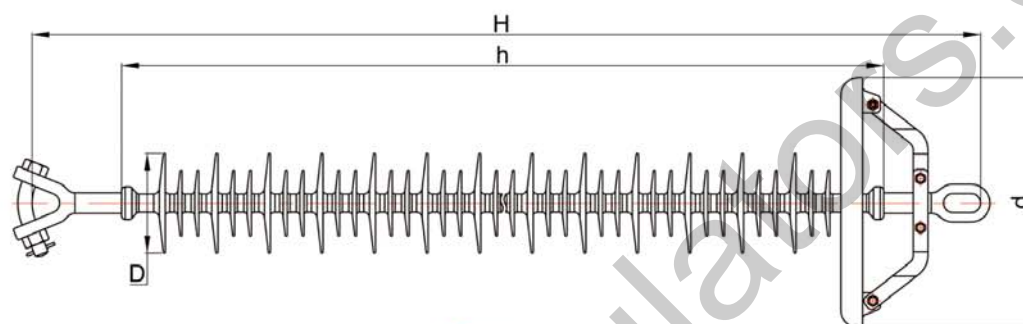


FIG 2.2.3



2.2 110-220kV Composite Suspension / Tension Insulators

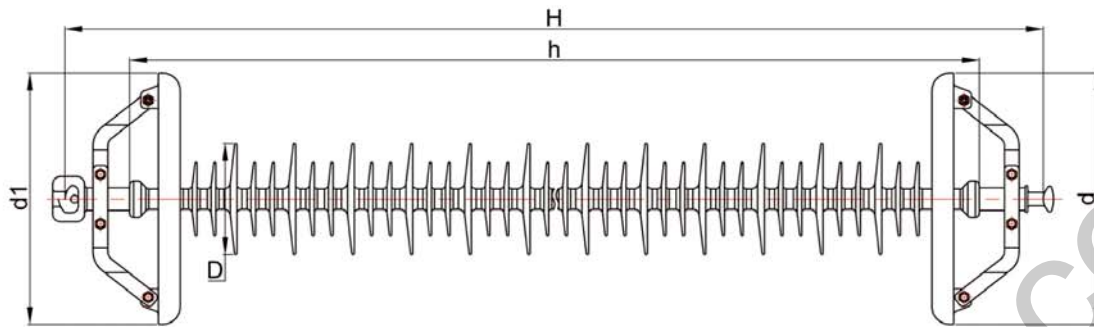
Grading Ring Diameter	Creepage Distance	Lightning Impulse Withstand Voltage	1 Min Wet Power Frequency Withstand Voltage	Specified Mechanical Load	Weight	Standard
d(mm)	mm	kV	kV	kN	kg	
250	3300	550	230	70	5.1	IEC 61109 ANSI C29.11 ANSI C29.12
250	3300	550	230	100	5.1	
250	3700	550	230	100	7.2	
250	3700	550	230	160	8.7	
250	3900	660	275	70	5.8	
250	3900	660	275	100	5.8	
250	4100	660	275	100	7.6	
250	4100	660	275	160	9.1	
305	6800	1000	395	100	11.7	
305	6800	1000	395	120	11.7	
305	6800	1000	395	160	13.3	
305	6800	1000	395	180	13.8	
305	6800	1000	395	210	14.3	

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2.Composite Suspension / Tension Insulators for Transmission Line

Model	Figure. No	Rated Voltage	Coupling Size	Section Length	Insulating Length	Max. Shed Diameter	Grading Ring Diameter
		kV		H(mm)	h(mm)	D(mm)	d(d1)(mm)
HFXBW-300/100	2.3.1	330	16	2990± 30	2700	162	305
HFXBW-300/120		330	16	2990± 30	2700	171	305
HFXBW-300/160		330	20	2990± 30	2600	171	305
HFXBW-300/180		330	20	2990± 30	2600	171	305
HFXBW-300/210		330	20	2990± 30	2600	171	305
HFXBW-400/90		400	16	3335± 50	3050	171	370
HFXBW-400/120		400	20	3335± 50	3050	171	370
HFXBW-400/160		400	20	3335± 50	3580	171	370
HFXBW-400/210		400	24	3335± 50	3580	171	370
HFXBW-500/100		500	16	4450± 50	4130	171	350/370
HFXBW-500/120		500	16	4450± 50	4130	171	350/370
HFXBW-500/160		500	20	4450± 50	4030	171	350/370
HFXBW-500/180		500	20	4450± 50	4030	171	350/370
HFXBW-500/210		500	20	4450± 50	4030	171	350/370
HFXBW-500/240		500	20	4450± 50	4030	171	350/370
HFXBW-500/300		500	24	4450± 50	3950	174	350/370
HFXBW-500/400		500	28	4450± 50	3900	190	350/370
HFXBW-750/100		750	16	7150± 50	6750	174	440
HFXBW-750/120		750	16	7150± 50	6750	174	440
HFXBW-750/160		750	20	7150± 50	6680	174	440
HFXBW-750/180		750	20	7150± 50	6680	174	440
HFXBW-750/210		750	20	7150± 50	6680	174	440
HFXBW-750/240		750	20	7150± 50	6680	174	440
HFXBW-750/300		750	24	7150± 50	6600	174	440
HFXBW-750/400		750	28	7150± 50	6565	190	440

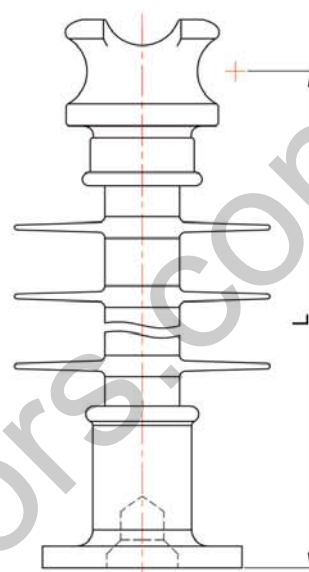


■ FIG 2.3.1

2.3 300-750kV Composite Suspension / Tension Insulators

Creepage Distance	Lightning Impulse Withstand Voltage	Wet Switching Impulse Withstand Voltage(Peak)	1 Min Wet Power Frequency Withstand Voltage	Specified Mechanical Load	Weight	Standard
mm	kV	kV	kV	kN	kg	
9100	1425	950	570	100	11.5	IEC 61109 ANSI C29.11 ANSI C29.12
9400	1425	950	570	120	15.4	
9200	1425	950	570	160	16.6	
9200	1425	950	570	180	16.6	
9200	1425	950	570	210	16.6	
10500	1850	1050	680	90	22.0	
10500	1850	1050	680	120	22.0	
10500	1850	1050	680	160	28.5	
10500	1850	1050	680	210	26.5	
14400	2250	1240	740	100	21.5	
14400	2250	1240	740	120	21.5	
14400	2250	1240	740	160	24.1	
14400	2250	1240	740	180	24.1	
14400	2250	1240	740	210	24.1	
14400	2250	1240	740	240	24.1	
14000	2250	1240	740	300	28.4	
14400	2250	1240	740	400	36.9	
23800	2700	1800	1120	100	42.0	
23800	2700	1800	1120	120	42.0	
23800	2700	1800	1120	160	42.7	
23800	2700	1800	1120	180	42.7	
23800	2700	1800	1120	210	42.7	
23800	2700	1800	1120	240	42.7	
23500	2700	1800	1120	300	43.7	
23500	2700	1800	1120	400	56.7	

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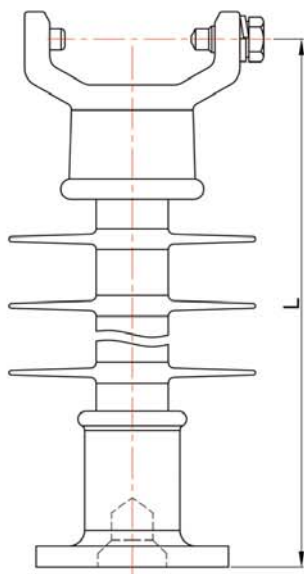


▪ FIG 3.1.1

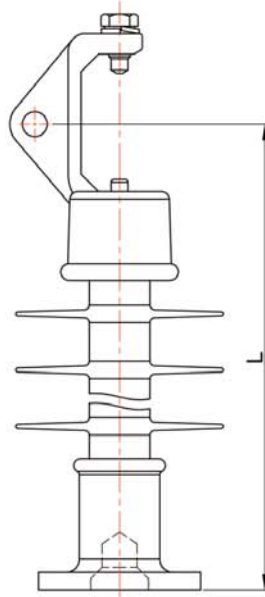
Top:C or F Neck
Bottom:Stud Base

3.1 Composite Line Post Insulators ($\leq 69\text{kV}$)

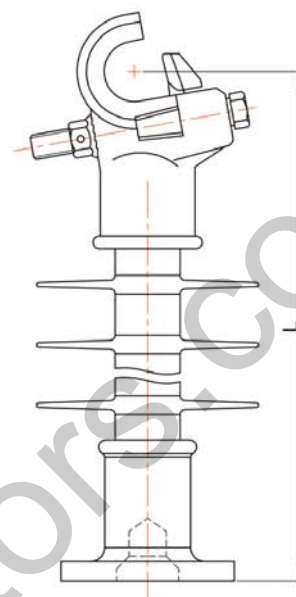
Type			HFZSW-15/12.5-XY	HFZSW-28/12.5-XY	HFZSW-35/12.5-XY
Figure No.			3.1.1 / 3.1.2 / 3.1.3 / 3.1.4		
Voltage Class		kV	15	28	35
Section Length (L)		mm	297	348	424
Dry Arcing Distance		mm	138	184	264
Creepage Distance		mm	275	420	657
Critical impulse Flashover Voltage		kV	130	160	195
Low-Frequency Flashover Voltage	Dry	kV	75	95	120
	Wet	kV	42	65	85
Radio Influence Voltage	Test voltage,rms to ground	kV	10	15	22
	Maximum RIV at 1MkHz	μV	2.5	2.5	2.5
Specified Tensile Load(STL)		kN	22	22	22
Specified Cantilever Load(SCL)		kN	12.5	12.5	12.5
Max.Design Cantilever Load(MDCL)		kN	6.0	6.0	6.0
Number of sheds		pcs	2	3	5
Approx. Weight		kg	4.1	4.3	4.8
Standard			ANSI C29.18		



▪ FIG 3.1.2
Top:Vertical Clamp
Bottom:Stud Base



▪ FIG 3.1.3
Top:Horizontal Trunnion Clamp
Bottom:Stud Base



▪ FIG 3.1.4
Top:K-Clamp
Bottom:Stud Base

3.1 Composite Line Post Insulators($\leq 69\text{kV}$)

HFZSW-46/12.5-XY	HFZSW-69/12-XY	HFZSW-69/14-XY	HFZSW-69/11-XY
3.1.1 / 3.1.2 / 3.1.3 / 3.1.4			
46	69	69	69
500	571	619	694
339	445	478	551
860	1171	1121	1511
240	300	310	360
145	190	205	235
115	150	160	190
30	30	30	45
2.5	2.5	2.5	6
22	22	22	22
12.5	12.0	14.0	11.0
6.0	6.0	7.0	5.5
6	10	10	13
5.8	7.0	10.1	8.4
ANSI C29.18			

XY:X(Top fitting)/Y(Bottom fitting)

X optional:

C(C Neck)

F(F Neck)

H(Horizontal Trunnion Clamp)

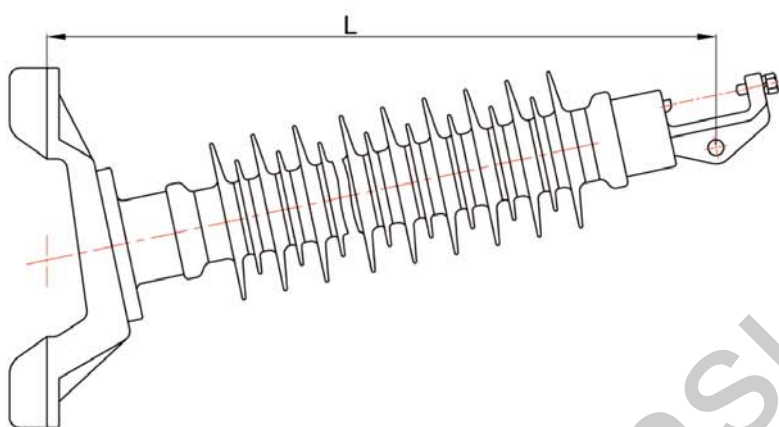
V(Vertical Clamp)

K(K-Clamp)

Y optional:

S(Stud Base)

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▪ FIG 3.2.1

Top:Horizontal Trunnion Clamp
Bottom:Gain Base

3.2 Composite Line Post Insulators($\geq 69\text{kV}$)

Type		HFZSW-69/27-XY	HFZSW-69/24-XY	HFZSW-69/21-XY	HFZSW-115/18-XY	HFZSW-115/15-XY
Figure No.		3.2.1 / 3.2.2 / 3.2.3				
Voltage Class	kV	69	69	69	115	115
Section Length (L)	mm	775	899	1022	1147	1271
Dry Arcing Distance	mm	617	737	861	986	1115
Leakage Distance	mm	1544	1890	2238	2583	2931
Critical Impulse Flashover Voltage positive	kV	380	450	520	590	665
Low Frequency Flashover Voltage	Dry	kV	250	290	340	385
	Wet	kV	225	260	295	330
Specified Cantilever Load	kN	27.1	24.0	21.1	18.2	15.2
Max. Design Cantilever Load	kN	13.5	12.0	10.6	9.1	7.6
Specified Tensile Load	kN	22.2	22.2	22.2	22.2	22.2
Standard		ANSI C29.17				

XY: X(Top fitting) / Y(Bottom fitting) X optional: V(Vertical Trunnion Clamp) H(Horizontal Trunnion Clamp) E(Drop Eye)

Y optional: G(Gain Base) C(Curved Bendable Gain Base) F(Flat Bendable Base)

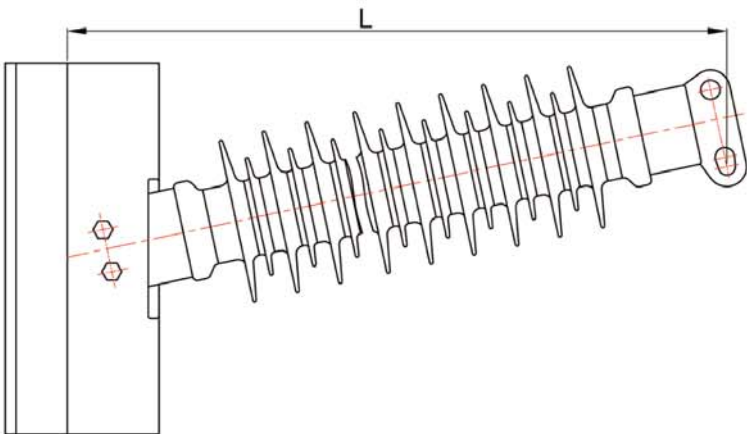


FIG 3.2.2
Top:Drop Eye-E
Bottom:Curved Bendable Gain Base

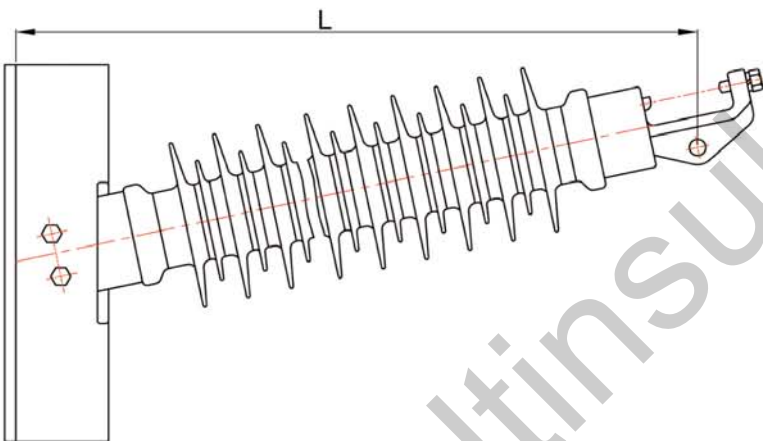
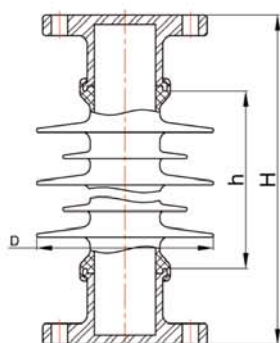


FIG 3.2.3
Top:Horizontal Trunnion Clamp
Bottom:Flat Bendable Base

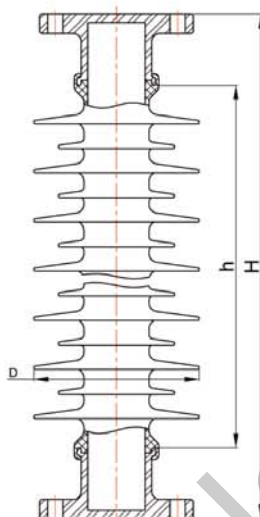
3.2 Composite Line Post Insulators(≥69kV)

HFZSW-138/14-XY	HFZSW-138/12-XY	HFZSW-161/10-XY	HFZSW-161/9-XY	HFZSW-230/8-XY	HFZSW-230/7-XY	HFZSW-230/6-XY
3.2.1 / 3.2.2 / 3.2.3						
138	138	161	161	230	230	230
1395	1519	1643	1767	2289	2537	2766
1234	1361	1481	1610	2032	2281	2540
3277	3622	3970	4315	5166	5862	6553
735	805	875	955	1205	1350	1505
475	520	555	600	740	820	905
410	450	470	495	565	605	650
13.8	12.3	10.8	9.4	8.0	7.2	6.5
6.9	6.2	5.4	4.7	4.0	3.6	3.3
22.2	22.2	22.2	22.2	22.2	22.2	22.2
ANSI C29.17						

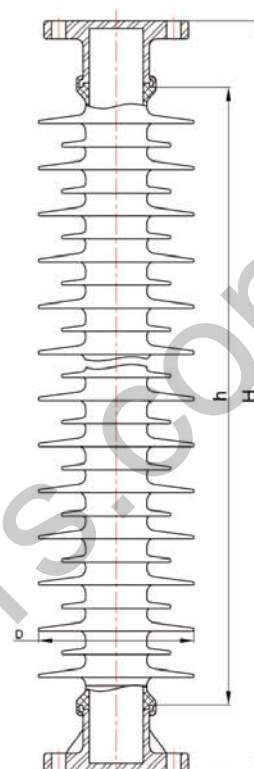
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▪ FIG 4.1



▪ FIG 4.2



▪ FIG 4.3

4 Composite Station Post Insulators

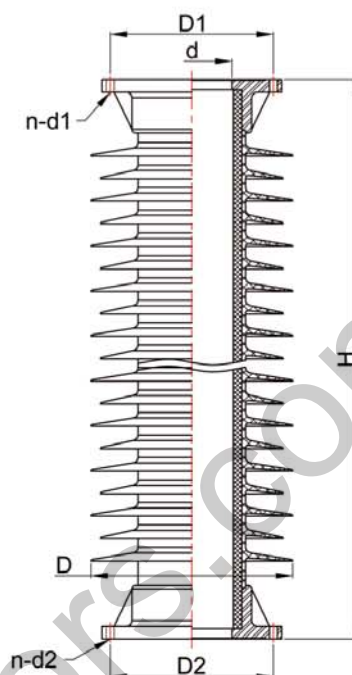
Type	Figure. No	Rated voltage	Specified Cantilever Load	Section Length	Insulating Length
		kV	kN	H(mm)	h(mm)
HFXZZ-10/6	4.1	10	6	215± 1	125
HFXZZ-10/8		10	8	215± 1	125
HFXZZ-20/6		20	6	305± 1	215
HFXZZ-20/8		20	8	305± 1	215
HFXZZ-20/10		20	10	355± 1	215
HFXZZ-35/4	4.2	35	4	560± 1	424
HFXZZ-35/8		35	8	560± 1	420
HFXZZ-66/4		66	4	770± 1	634
HFXZZ-66/8		66	8	770± 1	630
HFXZZ-132/4.5	4.3	132	4.5	1500± 2	1315
HFXZZ-126/8		110	8	1300± 2	1100
HFXZZ-126/10		110	10	1220± 1	1020
HFXZZ-126/12.5		110	12.5	1220± 1	1020
HFXZZ-252/4		252	4	2300± 3.5	2050



Composite station post insulators

4 Composite Station Post Insulators

Max. Shed Diameter	Creepage Distance	Lightning Impulse Withstand Voltage	1 Min Wet Power Frequency Withstand Voltage	Weight	Standard
D(mm)	mm	kV	kV	kg	
140	380	95	38	1.9	IEC 62231
146	380	95	38	2.2	
146	680	125	50	2.9	
150	680	125	50	3.3	
157	720	150	50	4.1	
146	1320	250	95	4.4	
157	1320	250	95	5.8	
157	2160	325	140	7.5	
172	2160	325	140	10.7	
172	4500	650	275	19.3	
192	3300	550	230	26.0	
202	3300	550	460	29.8	
220	3300	550	460	37.8	
222	6300	1050	460	66.3	



■ FIG 5.1

5 Composite Hollow Insulators

Rated voltage kV	Type	Figure. No	Main Dimensions			Top flange		Bottom flange		Creepage distance mm
			H mm	D mm	d mm	n-d1	D1 mm	n-d2	D2 mm	
40.5	HFB-40.5/20	5.1	600	350/318	200	4-Φ 18	284	4-Φ 18	284	1499
	HFB-40.5/30		600	398	240	6-Φ 18	385	6-Φ 18	385	1256
72.5	HFB-72.5/11		820	243	130	6-Φ 14	240	6-Φ 14	240	1813
	HFB-72.5/31		800	360	200	12-Φ 13.5	335	12-Φ 13.5	335	2248
126	HFB-126/15		1350	360	130/202	8-Φ 12	220	8-Φ 14	315	4158
	HFB-126/25		1306	400/368	220	12-Φ 13	396	12-Φ 13	396	3150
	HFB-126/15		1315	375/345	190	12-Φ 11	354	12-Φ 11	354	4410
	HFB-126/20		1330	350/318	200	16-Φ 14	328	16-Φ 14	328	3906
	HFB-126/16.5		1480	410/380	240	12-M10	280	12-M10	280	2520
	HFB-126/20		1320	357	102/195	8-Φ 11	220	8-Φ 14	330	3906
	HFB-126/12.5		1400	281	154	8-Φ 18	250	8-Φ 18	250	3906
	HFB-126/25		1360	360	200	12-Φ 14	335	12-Φ 14	335	3906
	HFB-126/25		1200	406	248	16-Φ 18	385	16-Φ 18	385	3906
	HFB-145/12.5		1500	281	154	16-Φ 12	250	16-Φ 12	250	4495
145	HFB-145/20		1500	357	102/195	8-Φ 11	220	8-Φ 14	330	4495
	HFB-145/25		1500	360	200	12-Φ 14	335	12-Φ 14	335	4495
	HFB-145/22.5		1700	340/310	210	12-M12	310	12-M12	310	5800
	HFB-145/20		1840	285/250	113	8-M10	210	8-M10	210	5655
	HFB-170/12.5		1732	281	154	16-Φ 12	250	16-Φ 12	250	5270
170	HFB-170/22.5		1995	377/347	180	12-M12	285	12-M12	285	5950
	HFB-252/55		2400	475	180/330	8-Φ 14	310	12-Φ 18	500	7595/7812
245/252	HFB-252/45		2260	470	300	16-Φ 14	370	16-Φ 14	370	7595/7812
	HFB-252/85		2336	546	375	16-Φ 18	560	16-Φ 18	560	7595/7812
	HFB-252/10		2206	470/436	300	12-M18	379	12-M12	379	5635/5796



5 Composite Hollow Insulators

MML	SML	Routine withstand load of inner pressure	Specified withstand load of inner pressure	Standard
kN,m	kN,m	Mpa	Mpa	
8.0	20.0	0.8	3.2	IEC 61462
12.0	30.0	0.8	3.2	
3.5	8.8	1.0	4.0	
10.0	25.0	0.8	3.2	
10.5	15.0	0.8	1.6	
12.5	25.0	1.5	6.0	
6.0	15.0	0.8	3.2	
10.0	20.0	0.7	2.6	
6.5	16.5	1.0	4.0	
8.0	20.0	1.0	4.0	
5.0	12.5	1.0	4.0	
10.0	25.0	1.0	4.0	
10.0	25.0	1.0	4.0	
5.0	12.5	1.0	4.0	
8.0	20.0	1.0	4.0	
10.0	25.0	1.0	4.0	
9.0	22.5	1.0	4.0	
10.0	20.0	1.0	4.0	
5.0	12.5	0.8	3.2	
9.0	22.5	1.0	4.0	
22.0	55.0	1.0	4.0	
18.0	45.0	1.0	4.0	
34.0	85.0	0.8	3.2	
4.0	10.0	1.0	4.0	



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