Overview

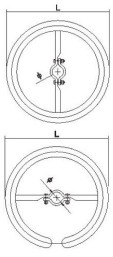
Grading Ring for Insulator

Grading ring is also used on high voltage equipment. Grading rings are similar to corona rings, but they encircles insulators rather than conductors. Although they may also serve to suppress corona, their main purpose is to reduce the potential gradient along the insulator, preventing premature electrical breakdown.

The potential gradient (electric field) across an insulator is not uniform, but is highest at the end next to the high voltage electrode. If subjected to a high enough voltage, the insulator will break down and become conductive at that end first. Once a section of insulator at the end has electrically broken down and become conductive, the full voltage is applied across the remaining length, so the breakdown will quickly progress from the high voltage end to the other, and a flashover arc will start. Therefore, insulators can stand significantly higher voltages if the potential gradient at the high voltage end is reduced.

The grading ring surrounds the end of the insulator next to the high voltage conductor. It reduces the gradient at the end, resulting in a more even voltage gradient along the insulator, allowing a shorter, cheaper insulator to be used for a given voltage. Grading rings also reduce aging and deterioration of the insulator that can occur at the HV end due to the high electric field there.

FJH Grading Ring for Insulator

Type		Dimension (mm)		Weight (kg)
		L	Φ	
	FJH-500	400	Φ44	1.5
	FJH-330	330	Φ44	1
	FJH-220	260	Φ44(Φ26)	0.75
	FJH-110	250	Φ44(Φ26)	0.6
	FJH-35	200	Φ44(Φ26)	0.6
	FJH-500KL	400	Φ44(Φ26)	1.4
	FJH-330KL	330	Φ44(Φ26)	0.95
	FJH-220KL	260	Φ44(Φ26)	0.7
	FJH-110KL	250	Φ44(Φ26)	0.55

FJP Grading Ring for Insulator

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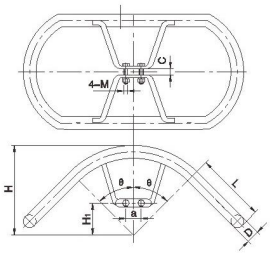
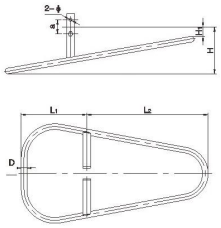
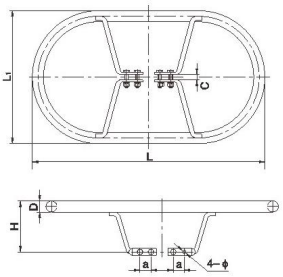
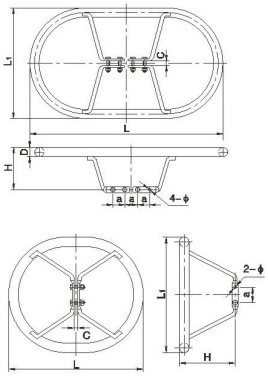
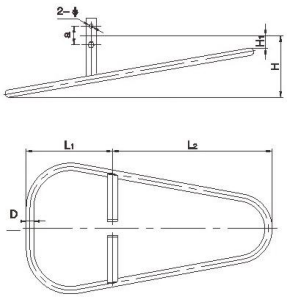
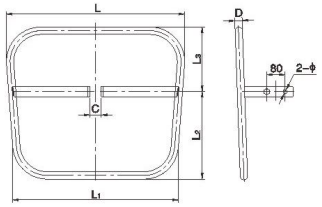
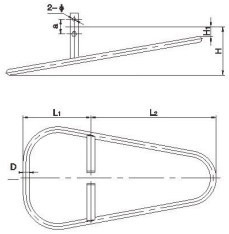
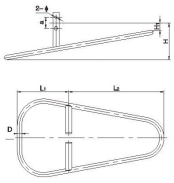
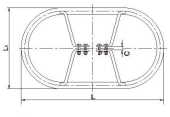








Type		Main Dimensions(mm)								Weight(kg)
		L	H	H1	D	M	C	A	θ	
	FJP-500XV-95	300	557	164	60	16	20	80	47.5°	6.8
	LJ2-500XV-55	300	548	78	60	16	24	80	55°	7.6
	LJ2-500XV-54	400	532	108	60	16	27	80	54°	8.2
	LJ2-500XV-50	300	577	109	60	16	24	80	50°	8
	LJ2-500XV-45	300	608	145	60	16	24	80	45°	7.2
Note:The main body is aluminum, and the rest are hot-dip galvanized steel parts.										

Type		Main Dimensions(mm)								Weight(kg)
		L1	L2	H	H1	a	D	θ	C	
	JP-300-N	352	652	392	120	80	32	18	24	5.2
	J-330N	320	702	176	136	80	32	18	24	5
	JP-330-NL	270	650	392	120	80	32	18	24	2.5
	Note:The main body is aluminum, and the rest are hot-dip galvanized steel parts.									

Type		Main Dimensions(mm)							Weight(kg)
		L	L1	H	D	θ	C	a	
	JL-500XS	1050	600	230	50	18	24	60	6.2
	LJ2-500XS	1050	600	230	50	18	22	60	
	FJ-500XS/GH	1050	600	230	60	14	22	60	14.3
	FJ-500XS/GHE	1150	600	270	60	18	24	60	6.8

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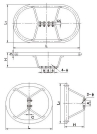
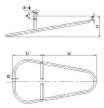
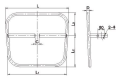
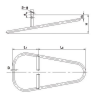
	FJP-500XSL	1200	600	230	50	18	20	60	7.3
	FJ-500XSL1	1200	600	230	50	18	22	60	
	FJ-500XSL2	1280	680	260	50	18	28	60	7.8
	FJ-500XSL3	1280	680	285	50	18	24	60	8
	LJ2-500XS/G	1150	600	230	60	18	24	60	6.8

Type		Diagram	Main Dimensions(mm)							Weight(kg)
			L	L1	H	D	θ	C	a	
	FJP-330XS	1	900	600	231	32	14	22	120	10.6
	FJP-330XD	2	700	600	275	32	18	20	80	9.6
	Hot-dip galvanized steel parts									

Type		Main Dimensions(mm)							Weight(kg)
		L	L1	L2	H	D	θ	C	
	PV-330	815	300	390	130	32	18	22	4.8
	Hot-dip galvanized steel parts								

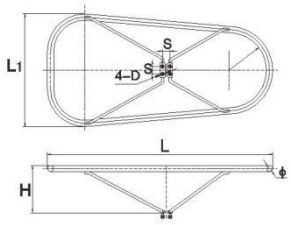
Type		Main Dimensions(mm)							Weight(kg)
		L	L1	L2	L3	D	θ	C	
	P-330X	800	700	380	280	32	18	18	5.48
	P-330XL	800	700	380	280	32	18	18	2.7
	The main body is aluminum or hot-dip galvanized steel								

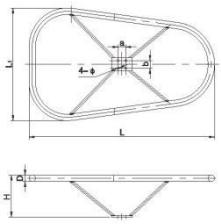
Type		Main Dimensions(mm)								Weight(kg)
		L	L1	L2	H	H1	D	θ	C	
	JP-330-X	800	270	350	220	145	32	18	18	4.2
	FJP-330-NB	800	320	380	392	150	32	18	16	4.8
	JP-330-XL800	800	270	350	220	145	32	18	18	2.1
	The main body is aluminum or hot-dip galvanized steel									

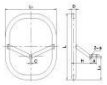
FJPE Shielding Corona Ring

A corona ring, also called an anti-corona ring, is a toroid of conductive material, usually metal, which is attached to a terminal of high voltage equipment. The role of the corona ring is to distribute the electric field gradient and lower its maximum values below the corona threshold, preventing corona discharge. Corona rings are used on very high voltage power transmission insulators and switchgear, and on scientific research apparatus that generates high voltages.

Corona discharge is an ionization of air adjacent to high voltage conductors. It is sometimes visible as a dim blue glow in the air next to high voltage equipment. The high electric field ionizes the air, allowing current to leak from the conductor into the air. In electric power transmission lines and equipment, corona results in an economically significant waste of power. In devices such as electrostatic generators, marx generators, and television sets, the current load caused by corona leakage can reduce the voltage produced by the device, causing it to malfunction. Coronas also produce noxious and corrosive ozone gas, which can cause aging and embrittlement of nearby structures such as insulators, and create a health hazard for workers and local residents. For these reasons corona discharge is considered undesirable in most electrical equipment.

Type		Dimension (mm)						Weight (kg)
		L	L1	D	S	H	Φ	
	FJPE-50/1800/300	1800	900	18	60	300	50	9.5
	FJPE-50/1800/325	1800	900	18	60	325	50	9.5
	FJPE-50/1800/350	1800	900	18	60	350	50	9.5
	FJPE-50/1800/375	1800	900	18	60	375	50	9.5
	FJPE-50/1900/300	1900	900	18	60	300	50	9.5
	FJPE-50/1900/325	1900	900	18	60	325	50	9.5
	FJPE-50/1900/350	1900	900	18	60	350	50	9.5
	FJPE-50/1900/375	1900	900	18	60	375	50	9.5

Type		Dimension (mm)							Weight (kg)
		L	L1	H	D	Φ	a	b	
	JPL-500N	1450	900	330	50	18	60	60	9.3
	FJP-500ND	1670	900	405	50	18	60	60	10.5
	FJP-500N/GH	1450	920	330	60	18	60	60	11.3
	FP-500N/GH	1450	900	330	60	18	60	60	10.7
	Note:The main body is aluminum, and the rest are hot-dip galvanized steel parts.								

Type		Dimension (mm)								Weight (kg)
		L	L1	L2	H	D	Φ	C	a	
	PLJ-500K	700	600	250	235	50	18	20	60	3.9
	PLJ-500X	700	600	270	235	50	18	20	60	4.4
	PPLJ-500K	700	600	270	235	50	18	20	60	4.6
	Note:The main body is aluminum, and the rest are hot-dip galvanized steel parts.									

Type	Dimension (mm)	Weight

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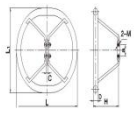
		L	L1	H	D	M	C	a	(kg)
	FJP-500XDA	800	700	320	50	16	20	80	6.2
	JL-500XD	700	600	290	50	16	20	80	4.33
	FJP-500XD1L	700	600	270	50	12	20	45	4.2
	FJ-500XD/GH	700	600	290	60	12	20	80	9.85
	Note:The main body is aluminum, and the rest are hot-dip galvanized steel parts.								

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