VIKING

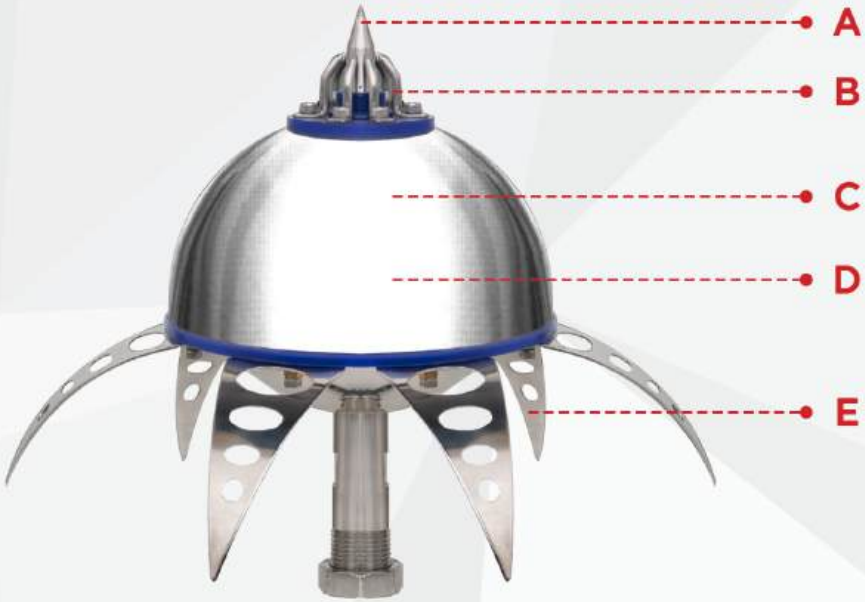
A SAFER, MORE **COST EFFECTIVE, AND RELIABLE** ALTERNATIVE
COMPARED TO **CONVENTIONAL LIGHTNING CONDUCTOR SYSTEM**

EARLY STREAMER EMISSION

LIGHTNING CONDUCTOR

HOW **VIKING WORKS**

The Viking Early Streamer Emission operates as **ION GUN** which fires a large number of ions to the atmosphere just before the lightning strikes. The ions that released to the atmosphere will automatically generate a **LIGHTNING PATH** known as upward leader which is **EARLIER** than other nearby high point and thus reduce the excitation time of **CORONA EFFECT**. Therefore, VIKING will **EFFECTIVELY** protect surrounding area from lightning strike.



PRODUCT DESCRIPTION

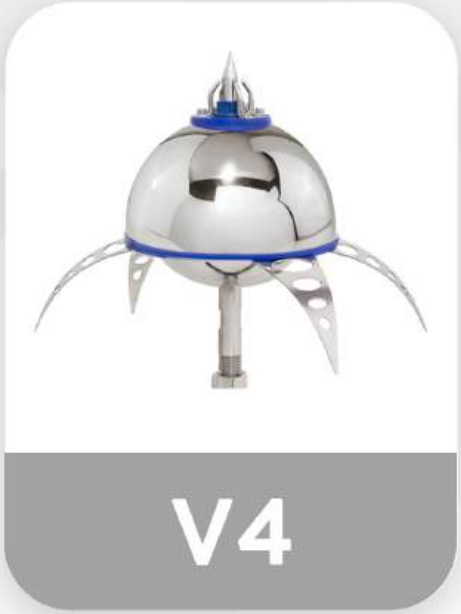
Viking Early Streamer Emission is equipped with the following :

A. Lightning Rod
B. Ions Discharge Terminal
C. Electronic Ions Generator
D. Electrical Impulse Sensors
E. Electric Energy Collector

RANGE OF **PRODUCTS**

V2

V3



V4

V6

ADVANTAGES

- Actively provide protection of the surrounding area
- Built with premium quality and robust mechanical design (referring to NF C 17-102 Standard 2011)
- Performance and reliability tested in high voltage laboratory by LMK
- Made with corrosion-resistant material (Stainless Steel 304)
- Competitive price

RADIUS **PROTECTION**

According to formula defined by French National Standard NF C 17 - 102 (2011), the radius protection (Rp) of Viking Lightning Conductor is calculated by the following formula :

Rp (m) = $\sqrt{h\,(2D - h) + \Delta L\,(2D + \Delta L)}$, where $h \geq 5m$

Rp (m) = $h \cdot Rp\,(5) / 5$, where $2m \leq h < 5m$

h (m) = Height of VIKING above the protected area.
If VIKING is used to protect the building, the height of the mast should be added by the height of the building to calculate the radius protection at the ground level of the building.

D (m) = Striking distance in value 20m, 30m, 45m, or 60m depending on the protection level required according to the lightning risk on the protected area.

ΔL (m) = ΔT (μsec)

ΔT (μsec) = Triggering advance which determined in High Voltage Laboratory depending on the selected Type of VIKING.

LEVEL 1 Protection (Distance = 20 m)

Type \ h(m)	2	3	4	5	6	7	8	10	15	20
V2	19	28	38	48	48	48	49	49	50	50
V3	25	38	51	63	63	64	64	64	65	65
V4	31	47	63	79	79	79	79	79	80	80
V6	35	53	70	89	89	89	89	89	90	90

LEVEL 2 Protection (Distance = 30 m)

Type \ h(m)	2	3	4	5	6	7	8	10	15	20	30
V2	22	33	44	55	55	55	56	57	58	59	60
V3	28	42	56	70	71	71	72	72	73	74	75
V4	35	52	69	86	87	87	87	88	89	90	90
V6	39	58	77	97	97	97	98	98	99	100	100

Type	ΔT (μsec)	Weight (Kg)
V2	30	3.7
V3	45	3.9
V4	60	4.1
V6	70	4.3

LEVEL 3 Protection (Distance = 45 m)

Type \ h(m)	2	3	4	5	6	7	8	10	15	20	30	45
V2	25	38	51	63	64	65	65	66	69	71	74	75
V3	32	48	64	80	81	81	82	83	85	86	89	90
V4	39	58	78	97	97	98	98	99	101	102	104	105
V6	43	65	86	108	108	109	109	110	111	112	114	115

LEVEL 4 Protection (Distance = 60 m)

Type \ h(m)	2	3	4	5	6	7	8	10	15	20	30	45	60
V2	28	43	57	71	72	73	73	75	78	81	85	89	90
V3	36	54	71	90	90	91	91	92	95	97	100	104	105
V4	43	64	85	107	107	108	108	109	111	113	116	119	120
V6	47	71	94	118	118	119	119	120	122	124	126	129	130

FOR MORE INFO

viking-ese.com