

# CÔNG TY TNHH THANH MINH PHƯƠNG

<http://kimthuset.net.vn/>

## LAP-DX 250 ACTIVE PARATONER



LIVA “LAP-DX 250 Active Lightning Rod“ operates on the principle of Early Streamer Emission(E.S.E.). Metal parts that are bearing the lightning were made out of stainless steel against (Inox) chemical interaction and corrosion. This feature provides solidity and endurance for the lightning rod against heavy natural conditions for a long time as it is on the first day.

**WORKING SYSTEM:** LAP-DX 250 LIVA Active Lightning Rod Head with Electro atmospheric Field Effect works on the principal of Early Streamer Emission (E.S.E.) and gets its energy from the changes of electrostatic and electromagnetic field density that form in the air. The air terminal -as it is seen on the picture- is grounded, insulated from the middle shaft, and on the contrary it has a High-tension Stroke Generator with free potential.

**Operation :** Electric field power in the atmosphere rises up to 10 – 20 kV/m in conditions orange clouds form with dense electric charge. When the electric field reaches values at which lightning may fall because of orange clouds (above 50 kV/m), lightning rod air terminal stores this energy by courtesy of Electroatmospheric Energy Block and starts to form high-tension strokes in quick succession. These strokes expose ions by discharging into the ion tunnel by way of three ion electrodes. Ions spreading towards orange loaded clouds from the ion tunnel form a leading charge path between the head and a cloud. When electric field diffusion has changed or electric field power has increased, the leading discharge strokes that are rising from the air terminal and lowering from the cloud increase by growing. These strokes are the leading discharge strokes that provide the lightning rod to catch the lightning and it proceeds until the lightning will have been formed.

LAP-DX 250 Active Lightning Rod activates the electric field power between the cloud and the earth just in case of lightning risk by courtesy of high-tension stroke generator. This structure provides the energy block to send out ions at high level.

After the catching process has occurred, LIVA Active Lightning Rod gets ready to start a new cycle.

### FEATURES OF THE DEVICE

**Metal Used :** “Stainless Steel” has been used in lightning rod head by thinking of heavy natural conditions.

**Lightning Intercepting Rod:** A stainless steel 25 mm.in diameter portion that intercepts the lightning.

**Electroatmospheric Energy Block:** The portion within the high-tension stroke generator that is dependant from the center shaft.

**Ion Electrodes :** These are the electrodes that high-tension strokes which are produced in the high-tension

<http://kimthuset.net.vn/>

**Earthing Connection Electrode** : A stainless steel 25 mm.in diameter portion that transfers the electric load formed by lightning through terminal blocks to conductors and ground.

**Pipe Connection Adapter** : A portion that lightning rod is connected to a 2"-pipe without using any apparatus.

LAP DX-250 Active Lightning Rod has proved its quality by being undergone various tests in a laboratory environment. Tests are given below.

**Lightning Strike Tension Jumping Time ( $\Delta t$ ) Test of the Lightning Rod:** The lightning rod's lightning tension jumping (Early Streamer Warning) time ( $\Delta t$ ) has been tested by NFC 17-102 (Appendix C) standards in the High-tension Laboratory of METU Electric-Electronic Section on 15-20 November 2008 and the lightning rod has been certified to be suitable related standards.

**Warranty Period:** It has “30-Year Warranty” certificate from the Ministry of Industry and Trade. (For Turkiye)

ORDER		PACKING	$\Delta t$ Early Streamer Warning Time	Protection Diameter			
CODE	DIMENSIONS	DIMENSIONS	By NFC-17-102 Std. (*)	By NFC-17-102 Std. (**)			
LAP-DX-250	70 cm / 5.00 kg	25x25x50 cm	96 psn	Level-1	Level-2	Level-3	Level-4
				115	124	135	146