FRANCE PARATONNERRES ®

EARLY STREAMER EMISSION AIR TERMINAL

IONIFLASH MACH ® NG60

TECHNICAL DATA SHEET

■ CHARACTERISTICS

REFERENCE	90160
DESIGNATION	IONIFLASH MACH NG60
EARLY STREAMER EMISSION ΔT	135µs
WEIGHTED EARLY STREAMER EMISSION ΔT according to NFC 17-102	60µs
SECURITY COEFFICIENT	56%
GROSS WEIGHT	2.2 Kg

The early streamer emission ΔT can be defined as the average gain in streamer emission time of the ESE air terminal (ESEAT) compared to a simple rod air terminal (SRAT) measured in the same conditions. ΔT is measured in a High Voltage Laboratory according to the NFC 17-102 Ed. 2011 Standard.

■ RADIUS OF PROTECTION

RADIUS OF PROTECTION of IONIFLASH MACH® NG60 NFC 17-102 (Sept 2011)				
Height **(m)**	Level **I**	Level **II**	Level **III**	Level **IV**
2	31	35	39	43
5	79	86	97	107
8	79	87	98	108
10	79	88	99	109
15	80	89	101	111
20	80	89	102	113
30	79	90	104	116
45	76	89	105	119
60	69	85	104	120

The level of protection is given using the NFC 17-102 Edition 2011, EN 62305-2 or UTE 17-108 guide. If the site presents a risk for the environment, the protection radius must be reduced of 40%. For a level of protection I++ (cf.5.2.3.5 NFC 17-102), the protection radius must be also reduced of 40%.
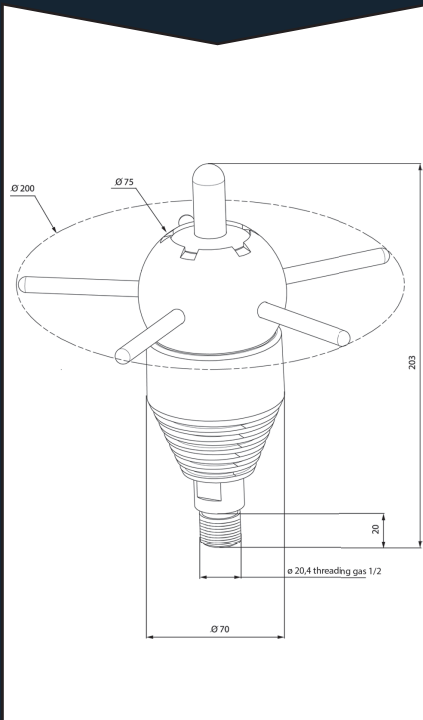
■ STANDARDS & REGULATIONS

For a site subject to a lightning risk, it is necessary to carry out a lightning risk analysis (NFC 17-102, EN 62305-2 or UTE 17-108), then to define via a lightning technical study the specifications of protection to be set up.

The implementation of the necessary protections is done in accordance with the Standards of protection in effect (NFC 17-102 Ed. 2011 or EN 62305 Ed. 2010).

Initial or periodic verifications made it possible to supervise the evolution of the protection devices against lightning and to ensure the protection of the people and the goods.

According to Art. 20 of the decree of 19.07.2011 of the French Minister of Ecology, the recording of the events must be done for the sites ICEP (Installations Classified for Environmental Protection).

The lightning counter IONICOUNT® is the guarantee of the recording of essential information during the verifications on sites.

Ø 200
Ø 75
203
20
ø 20,4 threading gas 1/2
Ø 70

Qualifoudre
INERIS N°: 051168729019

ISO 9001
BUREAU VERITAS
Certification

BUREAU VERITAS 1828

French technology and production

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FRANCE®
PARATONNERRES
EARLY STREAMER EMISSION AIR TERMINAL

■ WORKING STEPS OF THE IONIFLASH MACH®

The Early Streamer Emission Air Terminal IONIFLASH MACH® protects against all lightning strikes positive or negative.

The absence of fragile components reinforces its reliability and makes it not vulnerable to lightning impacts. It doesn't require any remote test for checking its functioning. An operational test procedure with two devices is available.

The IONIFLASH MACH® is guaranteed 7 years (*).

STEPS

1. Approach of the lightning phenomenon.
2. Detection of the lightning frequency by the ESE internal device.
3. Increase of the electrostatic field of the earth.
4. Tip effect at the top of the IONIFLASH MACH®.
5. Increase of the tip effect by the potential tips.
6. Electrostatic charge of the atmospheric electrode.
7. Breakdown of the principal and internal early streamer emission device.
8. Creation of the germ electron at the top of the air terminal.
9. Upward leader generated.
10. Connection between upward and downward leaders (lightning strike).
11. Discharge of the lightning at the top of the air terminal and flow of the lightning current through earth electrode.

■ EXAMPLE OF INSTALLATION OF IONIFLASH MACH®
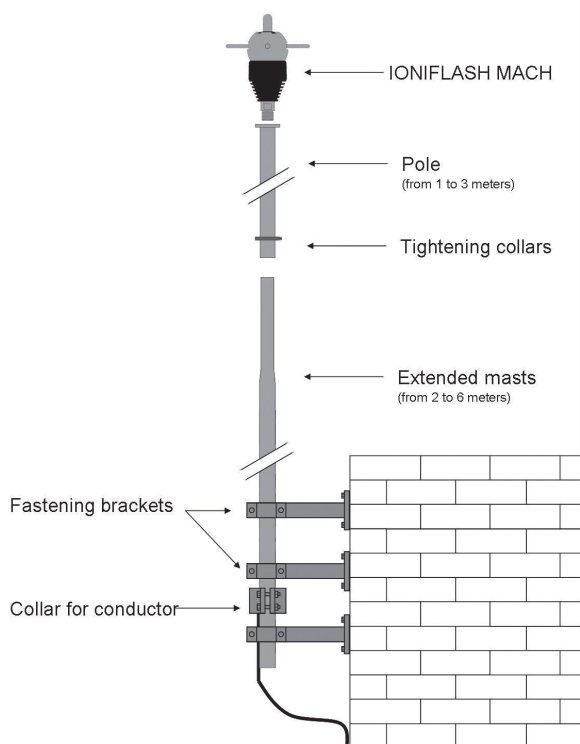
■ COMPLETE EXAMPLE OF AN INSTALLATION OF LIGHTNING PROTECTION WITH IONIFLASH MACH® NG60

Protection of a factory
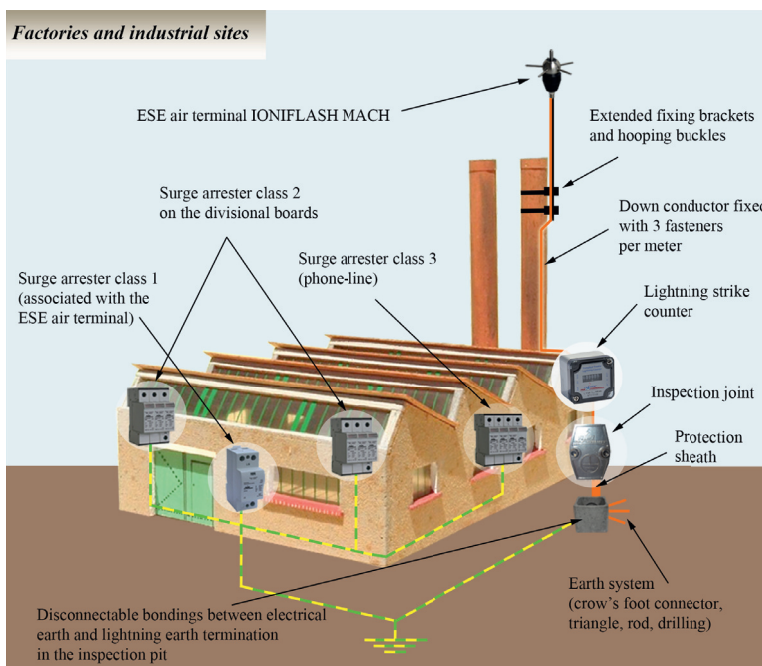
■ FUNDAMENTAL RULES OF INSTALLATION

The early streamer emission air terminal must imperatively be at least installed 2 meters over the highest point of the building to be protected.
Two down conductors at least must be installed closest to the air terminal for a better flow of the lightning current to the earth.
According to the NFC 17-102 Ed. 2011, the earth termination must be equal or lower than 10 ohms.
The two earth terminations and the electrical earth must be joined together via an equipotentiality connection.

(*) according to our sales conditions