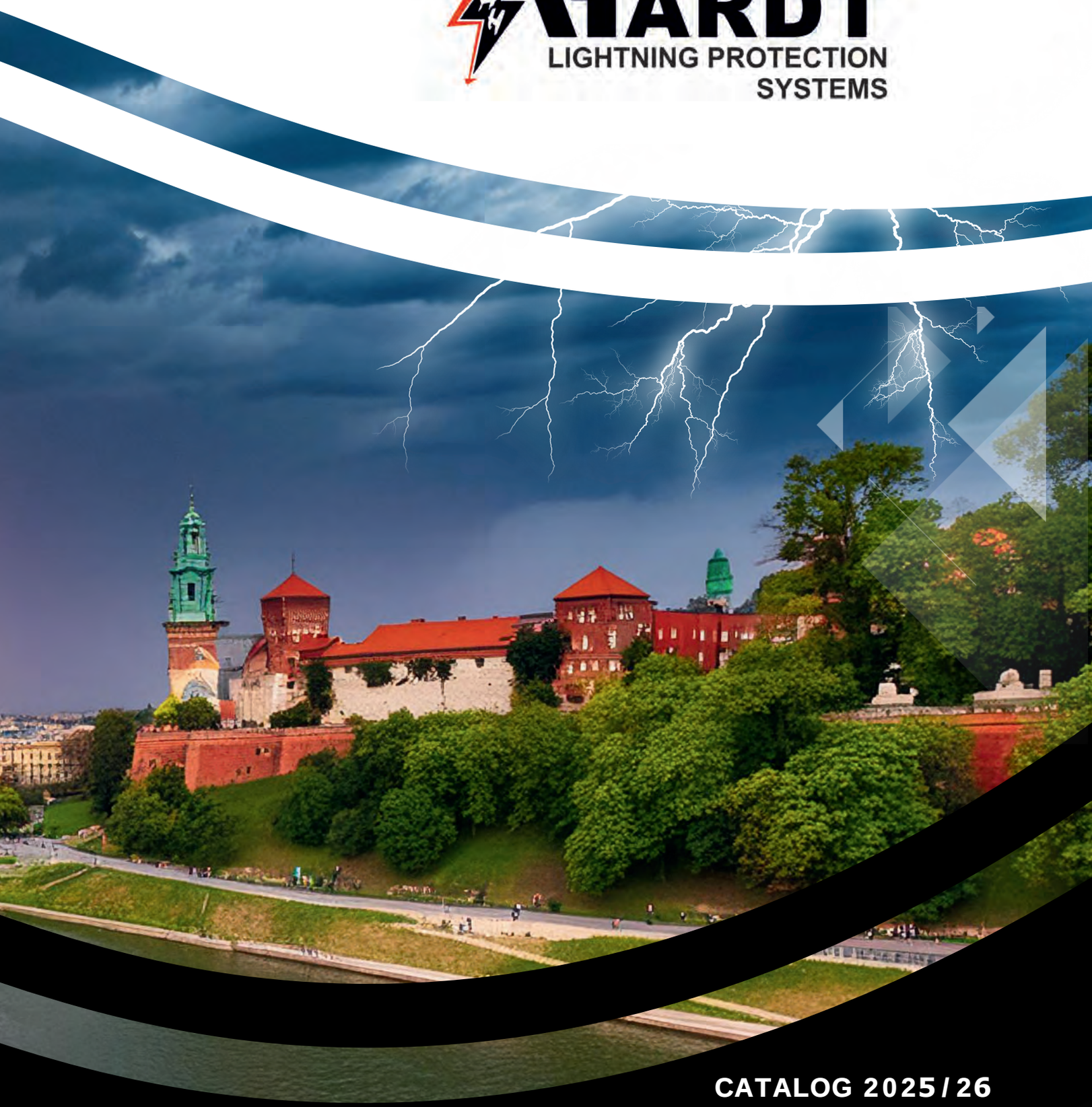
HARDT®
LIGHTNING PROTECTION
SYSTEMS



**CATALOG 2025/26**

*Effective and reliable lightning protection!*

# Dear customers!

*We are the oldest and most experienced manufacturer of lightning protection systems in Poland. Our systems meet the highest required quality, aesthetic and technical - confirmed by tests in certified research units.*

*The Management System we have implemented*
*ISO 9001:2015*
*ISO 14001:2015*
*in its broadest scope includes:*
*DESIGN, PRODUCTION, SALE AND INSTALATION OF COMPONENTS OF THE LIGHTNING PROTECTION STSTEM, EARTHING, MASTS. DESIGN OF PROFESSIONAL LIGHTNING PROTECTION SYSTEMS.*

*As the only Polish company, we have our own certified high-voltage cable, which, in accordance with the SEP-BBJ certificate, withstands a current surge of 200kA and can be used in lightning protection class I, as well as masts, fasteners and groundings.*

*AH Hardt installations protect many prestigious historic, public, commercial, office buildings, etc. We support customers at every stage of cooperation, from installation design, product selection, technical assistance to sales and assembly.*

***Safety and quality at the highest level!***

Owners of

AH Hardt sp.j.

AH HARDT®
LIGHTNING PROTECTION SYSTEMS

SEP - BBJ

ISO 9001:2015
BUREAU VERITAS Certification



## Examples of projects implemented using AH Hardt lightning protection systems



**Office buildings**
CU Office – Wrocław
Tischnera Office – Krakow
Metropolitan in Warsaw
WARSAW HUB Warsaw
Mennica Legacy Tower Warsaw
Unity Tower – Krakow
Eternum Gdańsk



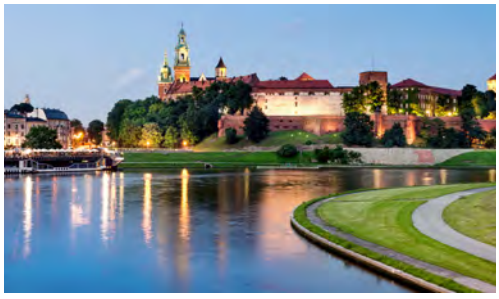
**Commercial buildings**
Galeria Młociny in Warsaw
IKEA Targówek
Galeria Serenada in Krakow
LIDL Kałuszyn
IKEA in Lublin
Bielany Wrocławskie
Leroy Merlin in Bełchatow



**Industrial buildings**
Orlen Płock – engine room and boiler room
Mondi Świecie – tanks
Azoty Puławy – industrial and warehouse buildings
Opole Power Plant – blocks 5 and 6
PGE GIEK S.A. Bełchatów – modernization of warehouse buildings
NITROERG S.A. – munitions storage in Krupski Młyn
The sarcophagus of the Chernobyl nuclear power plant



**Public facilities**
EXPO facilities in Kazakhstan
Tauron Arena in Krakow
Białołęka Hospital – Warsaw
Prokocim Hospital in Krakow
Academy buildings
National Stadium in Warsaw
AGH University of Science and Technology in Krakow



**Historic buildings**
Wawel Royal Castle in Krakow
Churches:
Corpus Christi, St. Mary's in Krakow
The Faustine and Norbertine Monasteries, the Benedictine Abbey in Tyniec
Wieliczka Salt Mine
Copper-Roof Palace in Warsaw
Przegorzały Castle in Krakow



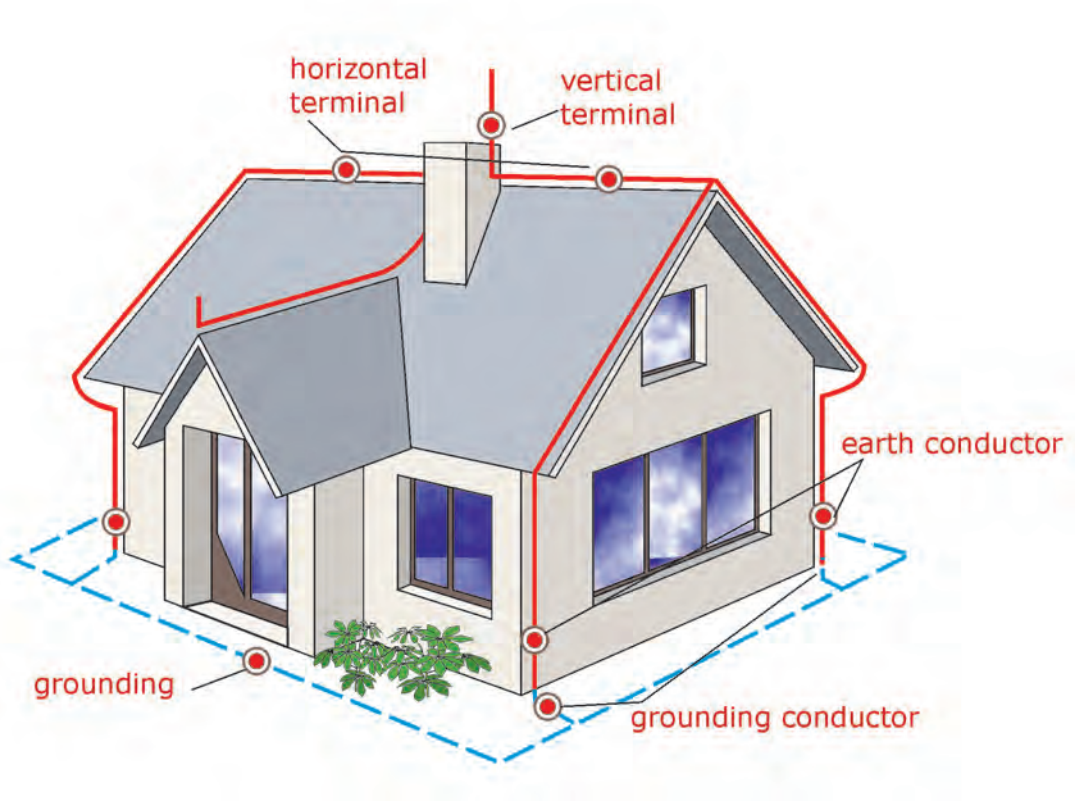
**Residential buildings**
Nowy Nikiszowiec in Katowice
Mangalia Mokotów housing estate in Warsaw
Wilanów housing estate in Warsaw
Atal Czyżyny in Krakow

# Lightning protection

An external lightning protection system (LPS) aims to protect the building, including living beings and the equipment therein, against the effects of a direct lightning strike.
The task of LPS is to capture the atmospheric discharge directed at the building using a system of terminals, and then discharge the lightning current securely through the discharge wires and disperse it into the ground using a grounding system.

The building's lightning protection system (LPS) consists of a ground part in the form of:

- **terminals –** intended for absorbing direct lightning discharge
- **discharge wires –** connecting the ground part to the ground wire
- **ground wires –** connecting the discharge wire to ground
- **grounding –** metal parts or their assemblies located in the ground or in the building's foundations and used to disperse the lightning discharge into the ground.




**Lightning protection class characteristic**

| lightning protection class | horizontal terminal grid | clearance between discharge wires | sphere radius R |
|---|---|---|---|
| I | 5x5m | every 10m | 20m |
| II | 10x10m | every 10m | 30m |
| III | 15x15m | every 15m | 45m |
| IV | 20x20m | every 20m | 60m |

The lightning protection class is determined by performing a risk analysis in accordance with PN-EN 62305-2.

## Designing

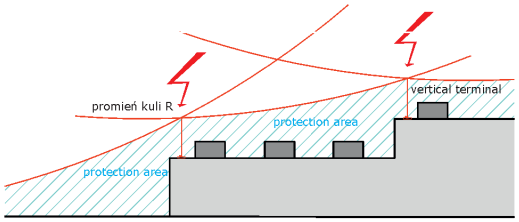
Our company assists in the design of professional lightning protection systems based on our products.

**A request for quote should contain the following information:**
**- the building's lightning protection class**
**- roof projection or sketch of the building's body with basic dimensions**
**- dimensions of the protected devices and their location on the roof**
**- information about the material the roof is made of**
**- company name, address and contact details**

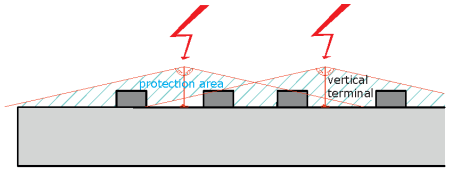
If possible, please send plans in dwg files.

## Methods for determining the position of terminals:

- **rolling sphere method – suitable in any case**
- **protection angle method – suitable for buildings with simple shapes**
- **stray current method – suitable for flat surfaces**



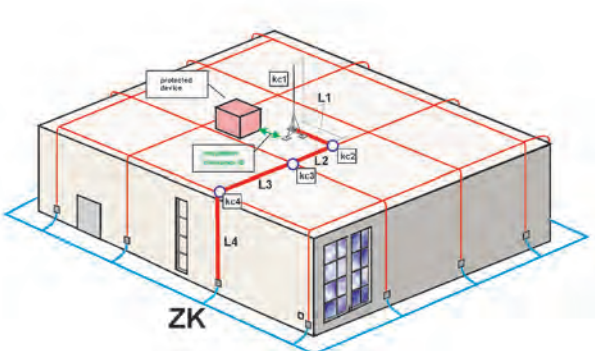
protection area made using the rolling sphere method



protection area made using the protection angle method, in which the roof level was adopted as the reference poin

**Insulation clearance –** the distance that must be ensured so that there is no spark jump between the earthing and the protected device

$$s = k_i \frac{k_c}{k_m} l$$




where:
s – separation clearance in m
ki – factor depending on the LPS class
km – factor depending on the electrical insulation material
kc – factor depending on the lightning current distribution
I – length in meters, measured along the LPS conductors from the point where the separation clearance is considered, to the point of the nearest equipotential bonding, or to the earthing

## Material connections

| | steel | aluminum | copper | stainless steel |
|---|---|---|---|---|
| **steel** | + | + | - | + |
| **aluminum** | + | + | - | + |
| **copper** | - | - | + | + |
| **stainless steel** | + | + | + | + |

# RESIDENTIAL BUILDING



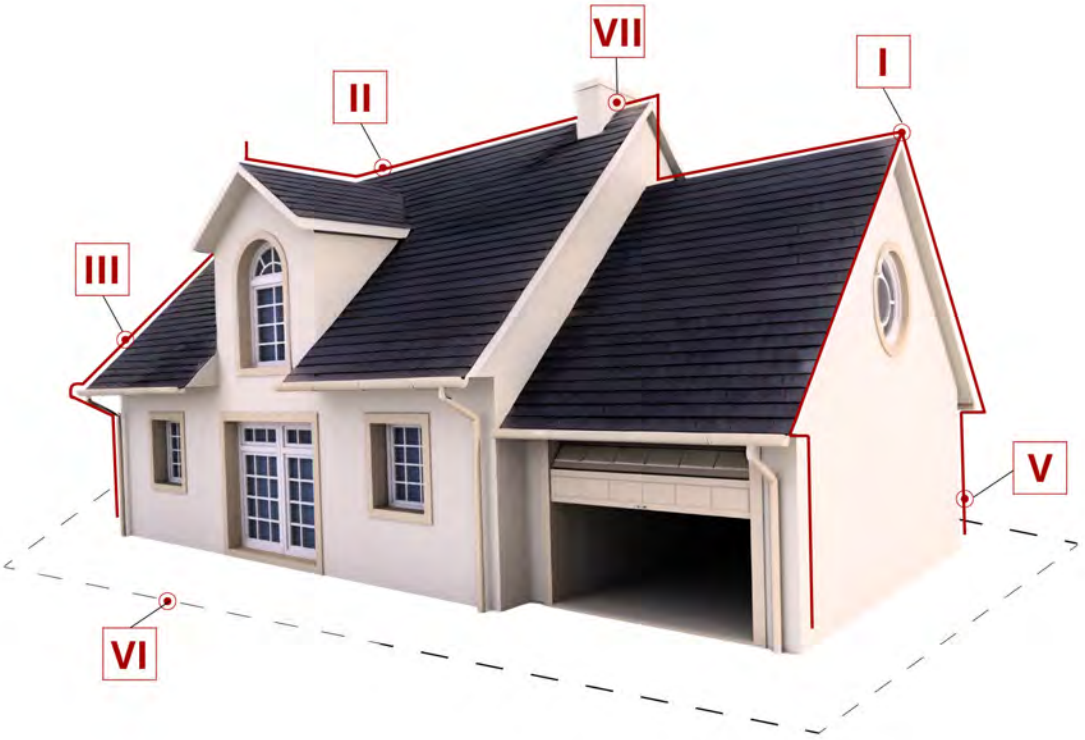
**Group I**
**connectors**



**Group II**
**lightning holders**



**Group III**
**lightning conductors**






**Group V**
**lightning protection pipes**




**Group VI**
**earthings and earthing elements**



**Group VII**
**air termination system**

# INDUSTRIAL BUILDING



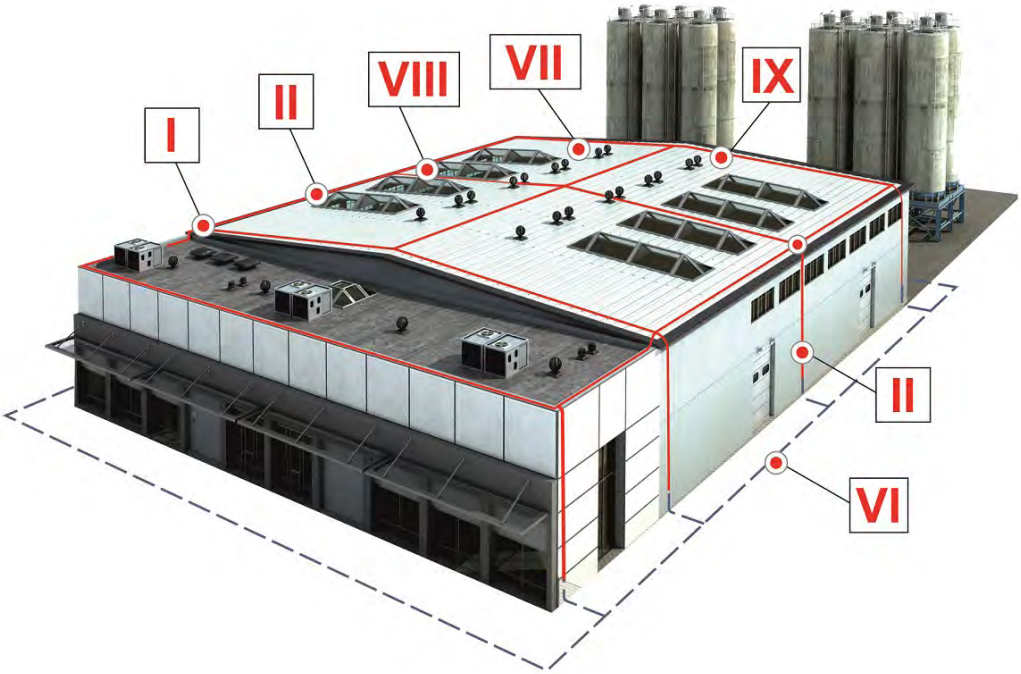
**Group I**
**connectors**



**Group II**
**lightning holders**



**Group VIII**
**high-voltage cable and accessories**






**Group IX**
**insulated rods and brackets**



**Group VI**
**earthings and earthing elements**



**Group VII**
**air termination system**

# EFFECTIVE AND RELIABLE
## LIGHTNING PROTECTION

- **Selection of certified products**
- **Lightning protection system design**
- **Professional advice**
- **Free quotes**
- **Installation of lightning protection system**

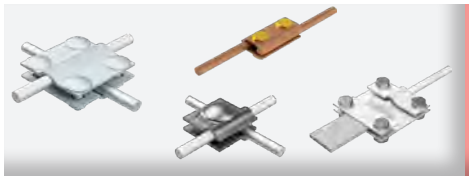
**Together we will take care of your safety!**



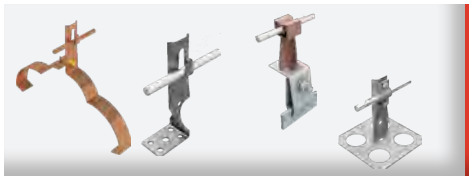
**CONTACT**

**biuro@ah.com.pl**

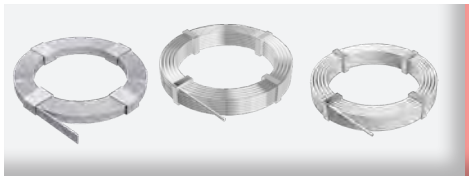
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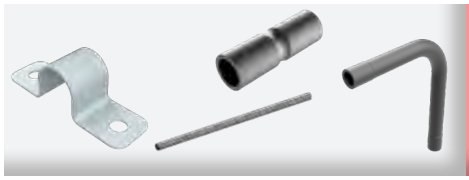
LIGHTNING HOLDERS p. 14-38 group II



LIGHTNING CONDUCTORS p. 39 group III



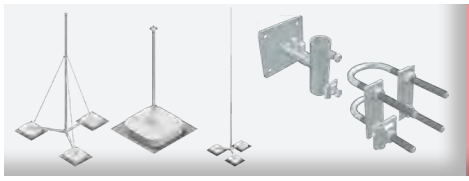
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LIGHTNING PROTECTION PIPES p. 42-43 group V



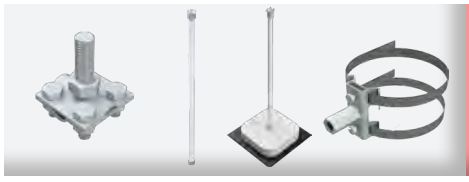
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HIGH VOLTAGE CABLE AND ACCESSORIES p. 80-83 group VIII



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OTHER PRODUCTS p. 87-90 group X

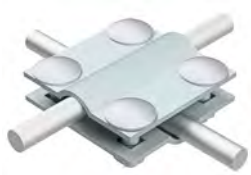


# CONNECTORS

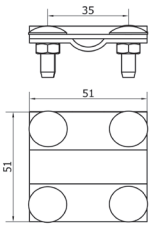
they are used for cross connections
grounding wire and steel tape in the layout:
- parallel
- cross
- T

## CROSS CONNECTORS

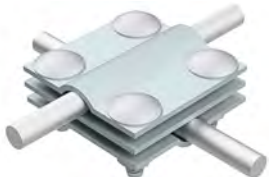
### 4-hole cross connector, 2-plate



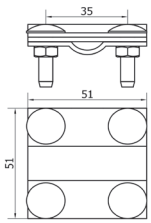
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH01031 | electro galvanized steel | Ø 8mm tape up to 30 mm | 4xM6x20 |
| AH0103OG | hot-dip galvanized steel | | |
| AH01032 | Cu/Mo | | |
| AH01033 | INOX | | |
| AH01034 | Al/INOX | | |



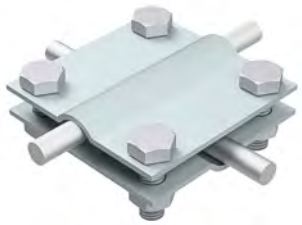

### 4-hole cross connector, 3-plate



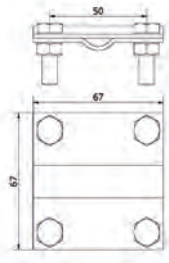
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH01041 | electro galvanized steel | Ø 8mm tape up to 30 mm | 4xM6x25 |
| AH0104OG | hot-dip galvanized steel | | |
| AH01042 | Cu/Mo | | |
| AH01043 | INOX | | |
| AH01044 | Al/INOX | | |



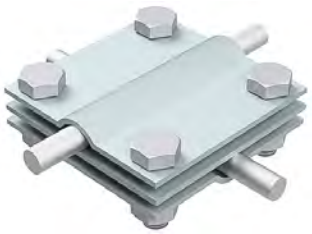

### 4-hole cross connector, 2-plate



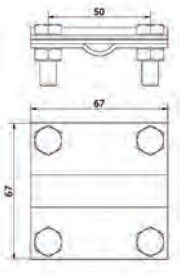
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH01051 | electro galvanized steel | Ø 8-10mm tape up to 40 mm | 4xM8x25 |
| AH0105OG | hot-dip galvanized steel | | |
| AH01052 | Cu/Mo | | |
| AH01053 | INOX | | |
| AH01054 | Al/INOX | | |




### 4-hole cross connector, 3-plate



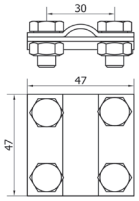
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH01061 | electro galvanized steel | Ø 8-10mm tape up to 40 mm | 4xM8x30 |
| AH0106OG | hot-dip galvanized steel | | |
| AH01062 | Cu/Mo | | |
| AH01063 | INOX | | |
| AH01064 | Al/INOX | | |



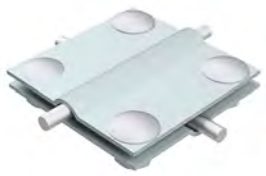

### 4-hole cross connector, 2-plate



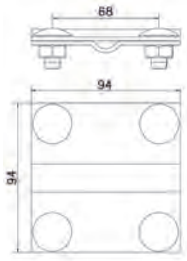
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH01101 | electro galvanized steel | Ø 8mm | 4xM8x20 |
| AH0110OG | hot-dip galvanized steel | | |
| AH01102 | Cu/Mo | | |
| AH01103 | INOX | | |
| AH01104 | Al/INOX | | |



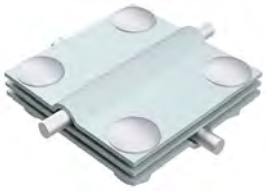
## 4-hole cross connector, 2-plate



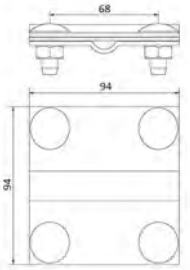
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH01171 | electro galvanized steel | Ø 8-10mm tape up to 50 mm | 4xM10x25 |
| 0117OG | hot-dip galvanized steel | | |
| 01172 | Cu/Mo | | |
| 01173 | INOX | | |
| 01174 | Al/INOX | | |




## 4-hole cross connector, 3-plate



| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH01181 | electro galvanized steel | Ø 8-10mm tape up to 50 mm | 4xM10x30 |
| AH0118OG | hot-dip galvanized steel | | |
| AH01182 | Cu/Mo | | |
| AH01183 | INOX | | |
| AH01184 | Al/INOX | | |

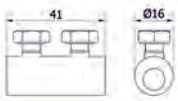



# CONNECTION SLEEVES

## 2-hole through connector



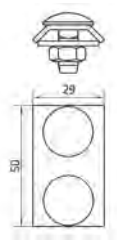
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH02011 | electro galvanized steel | Ø 8mm | 2xM8x10 |
| AH02012 | Cu/Mo | | |
| AH02013 | INOX | | |




## 2-hole through connector, single



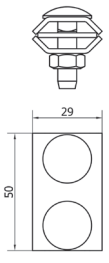
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH02021 | electro galvanized steel | Ø 8mm | 2xM8x20 |
| AH0202OG | hot-dip galvanized steel | | |
| AH02022 | Cu/Mo | | |
| AH02023 | INOX | | |
| AH02024 | Al/INOX | | |




## 2-hole through connector, double



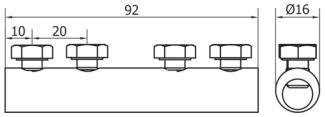
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH02031 | electro galvanized steel | Ø 8mm | 2xM8x30 |
| AH0203OG | hot-dip galvanized steel | | |
| AH02032 | Cu/Mo | | |
| AH02033 | INOX | | |
| AH02034 | Al/INOX | | |




## 4-hole through connector



| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH02041 | electro galvanized steel | Ø 8mm | 4xM8x10 |
| AH02042 | Cu/Mo | | |
| AH02043 | INOX | | |

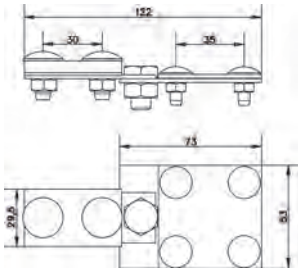


# TEST CONNECTORS

## 4-hole test connector; wire-tape



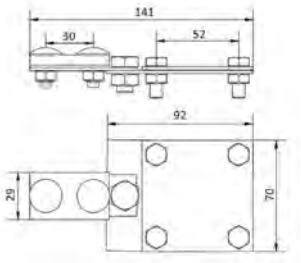
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH03021 | electro galvanized steel | Ø 8mm tape up to 30mm | 4xM6x16 1xM10x16 2xM8x20 |
| AH0302OG | hot-dip galvanized steel | | |
| AH03022 | Cu/Mo | | |
| AH03023 | INOX | | |
| AH03024 | Al/INOX | | |




## 4-hole test connector; wire-tape



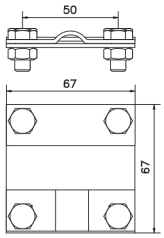
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH03031 | electro galvanized steel | Ø 8mm tape up to 40mm | 4xM8x20 1xM10x16 2xM8x20 |
| AH0303OG | hot-dip galvanized steel | | |
| AH03032 | Cu/Mo | | |
| AH03033 | INOX | | |
| AH03034 | Al/INOX | | |




## 4-hole test connector; wire-tape



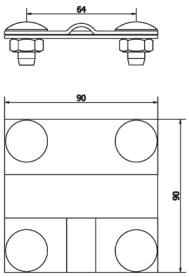
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH03051 | electro galvanized steel | Ø 8-10mm tape up to 40mm | 4xM8x20 |
| AH0305OG | hot-dip galvanized steel | | |
| AH03052 | Cu/Mo | | |
| AH03053 | INOX | | |
| AH03054 | Al/INOX | | |




## 4-hole test connector; wire-tape

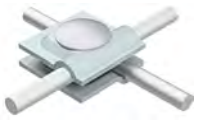


| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH03091 | electro galvanized steel | Ø 8-10mm tape up to 50mm | 4xM10x20 |
| AH0309OG | hot-dip galvanized steel | | |
| AH03092 | Cu/Mo | | |
| AH03093 | INOX | | |
| AH03094 | Al/INOX | | |

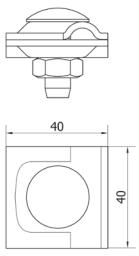



# UNIVERSAL CLAMPS

## Universal DIN connector; double



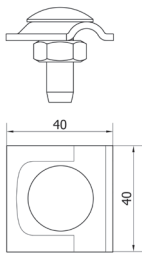
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH16011 | electro galvanized steel | Ø 8-10mm | 1xM10x30 |
| AH1601OG | hot-dip galvanized steel | | |
| AH16012 | Cu/Mo | | |
| AH16013 | INOX | | |
| AH16014 | Al/INOX | | |




## Universal DIN connector; single



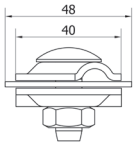
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH16021 | electro galvanized steel | Ø 8-10mm | 1xM10x30 |
| AH1602OG | hot-dip galvanized steel | | |
| AH16022 | Cu/Mo | | |
| AH16023 | INOX | | |
| AH16024 | Al/INOX | | |

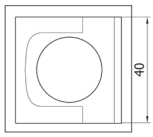


## Universal DIN connector; 3-plate



| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH16031 | electro galvanized steel | Ø 8-10mm | 1xM10x30 |
| AH1603OG | hot-dip galvanized steel | | |
| AH16032 | Cu/Mo | | |
| AH16033 | INOX | | |
| AH16034 | Al | | |

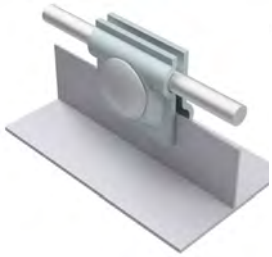










# LIGHTNING HOLDERS

they are used for laying the grounding wire and the tape iron on:
- roofs
- facades
- foundations

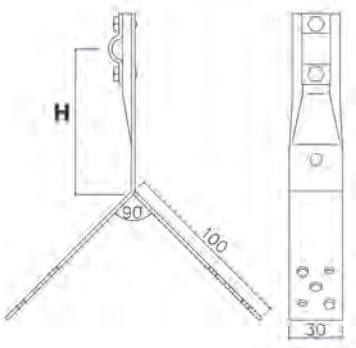


## TOP HOLDERS

### Top holder, screwed



| catalog No. | H [cm] | material | cable range | bolts |
|---|---|---|---|---|
| AH21011 | 8 | electro galvanized steel | Ø 8-10mm | 2xM5x16 |
| AH21021 | 10 | | | |
| AH2101OG | 8 | hot-dip galvanized steel | | |
| AH2102OG | 10 | | | |
| AH21012 | 8 | Cu/Mo | | |
| AH21022 | 10 | | | |
| AH21013 | 8 | INOX | | |
| AH21023 | 10 | | | |
| AH21014 | 8 | Al | | |
| AH21024 | 10 | | | |

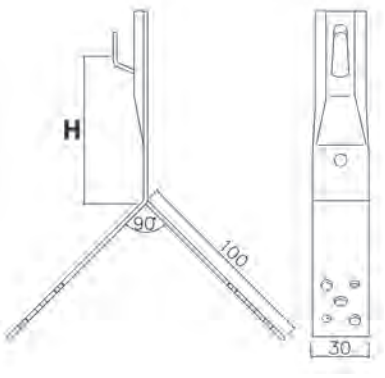



*At the customer's request we bend at any angle

### Top holder



| catalog No. | H [cm] | material | cable range |
|---|---|---|---|
| AH21031 | 8 | electro galvanized steel | Ø 8-10mm |
| AH21041 | 10 | | |
| AH2103OG | 8 | hot-dip galvanized steel | |
| AH2104OG | 10 | | |
| AH21032 | 8 | Cu | |
| AH21042 | 10 | | |
| AH21033 | 8 | INOX | |
| AH21043 | 10 | | |
| AH21034 | 8 | Al | |
| AH21044 | 10 | | |



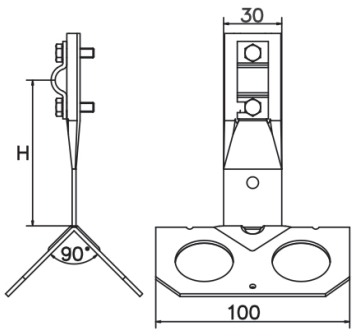

*At the customer's request we bend at any angle

### Top holder, screwed

| catalog No. | H [cm] | material | cable range | bolts |
|---|---|---|---|---|
| AH21071 | 8 | electro galvanized steel | Ø 8-10mm | 2xM5x16 |
| AH21081 | 10 | | | |
| AH2107OG | 8 | hot-dip galvanized steel | | |
| AH2108OG | 10 | | | |
| AH21072 | 8 | Cu/Mo | | |
| AH21082 | 10 | | | |
| AH21073 | 8 | INOX | | |
| AH21083 | 10 | | | |
| AH21074 | 8 | Al | | |
| AH21084 | 10 | | | |

*At the customer's request we bend at any angle





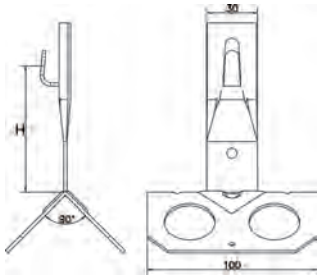



## Top holder



| catalog No. | H [cm] | material | cable range |
|---|---|---|---|
| AH21051 | 8 | electro galvanized steel | Ø 8-10mm |
| AH21061 | 10 | | |
| AH2105OG | 8 | hot-dip galvanized steel | |
| AH2106OG | 10 | | |
| AH21052 | 8 | Cu | |
| AH21062 | 10 | | |
| AH21053 | 8 | INOX | |
| AH21063 | 10 | | |
| AH21054 | 8 | Al | |
| AH21064 | 10 | | |

*At the customer's request we bend at any angle



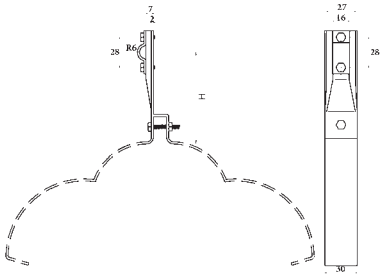

# HOLDERS FOR RIDGE TILES

## Profiled ridge tile holder, screwed



| catalog No. | H [cm] | material | cable range | bolts |
|---|---|---|---|---|
| AH04141 | 8 | electro galvanized steel | Ø 8-10mm | 2xM5x16 1xM6x30 |
| AH04151 | 10 | | | |
| AH0414OG | 8 | hot-dip galvanized steel | | |
| AH0415OG | 10 | | | |
| AH04142 | 8 | Cu/Mo | | |
| AH04152 | 10 | | | |

*Bend handle (before galvanizing) based on a ridge tile provided by the customer.
This solution greatly improves the installation's aesthetics and makes assembly easier.

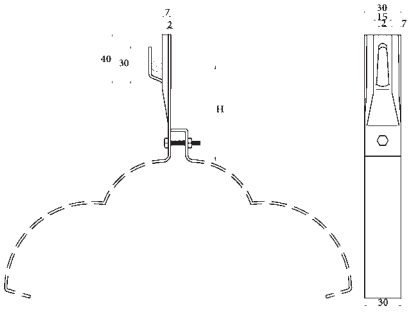



## Profiled ridge tile holder

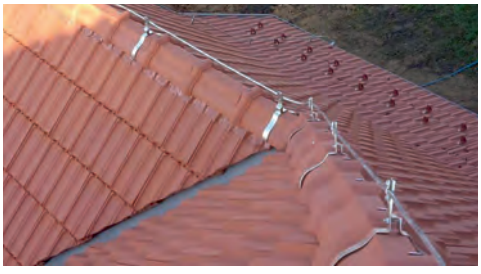


| catalog No. | H [cm] | material | cable range | bolts |
|---|---|---|---|---|
| AH04161 | 8 | electro galvanized steel | Ø 8-10mm | 1xM6x30 |
| AH04171 | 10 | | | |
| AH0416OG | 8 | hot-dip galvanized steel | | |
| AH0417OG | 10 | | | |
| AH04162 | 8 | Cu/Mo | | |
| AH04172 | 10 | | | |
| AH04163 | 8 | INOX | | |
| AH04173 | 10 | | | |
| AH04164 | 8 | Al | | |
| AH04174 | 10 | | | |

*Bend handle (before galvanizing) based on a ridge tile provided by the customer.
This solution greatly improves the installation's aesthetics and makes assembly easier.



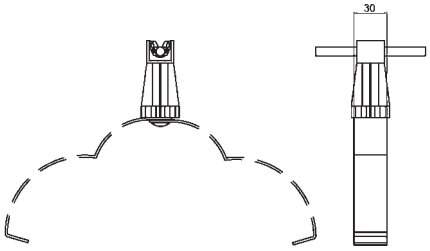


## Profiled ridge tile holder, with post



| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH04401... | electro galvanized steel, plastic | Ø 8mm | 1xM6x16 |
| AH0440OG... | hot-dip galvanized steel plastic | | |
| AH04402... | Cu/Mo plastic | | |
| AH04403... | INOX plastic | | |
| AH04404... | Al plastic | | |



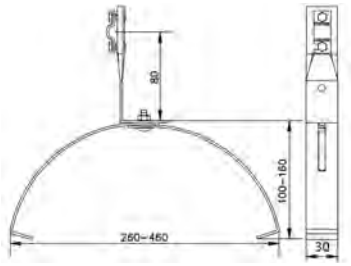

* to choose the color, add a letter to the last digit of the catalog number:
**B** – brown
**C** – brick
**A** – black

*Bend handle (before galvanizing) based on a ridge tile provided by the customer.
This solution greatly improves the installation's aesthetics and makes assembly easier.

## Universal ridge tile holder, screwed



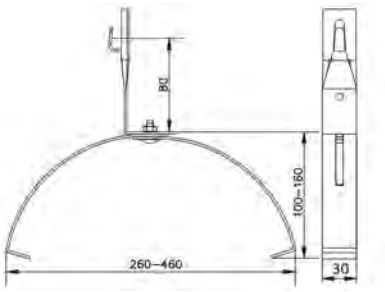
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH04331 | electro galvanized steel | Ø 8-10mm | 2xM5x16 1xM6x16 |
| AH0433OG | hot-dip galvanized steel | | |
| AH04332 | Cu/Mo | | |




## Universal ridge tile holder



| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH04321 | electro galvanized steel | Ø 8-10mm | 1xM6x16 |
| AH0432OG | hot-dip galvanized steel | | |
| AH04322 | Cu/Mo | | |
| AH04323 | INOX | | |
| AH04324 | Al | | |





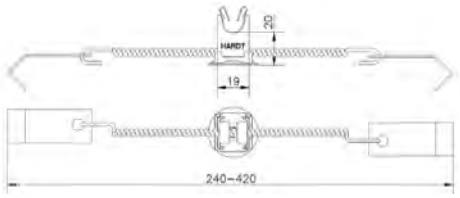





## Universal spring ridge clamp

| catalog No. | material | cable range |
|---|---|---|
| AH020001IN | INOX | Ø 8mm |

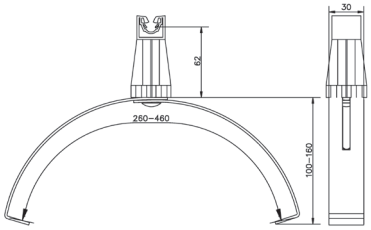





## Universal ridge tile holder, with post



| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH04201... | electro galvanized steel, plastic | Ø 8mm | 1xM6x16 |
| AH0420OG... | hot-dip galvanized steel plastic | | |
| AH04202... | Cu/Mo plastic | | |
| AH04203... | INOX plastic | | |
| AH04204... | Al plastic | | |



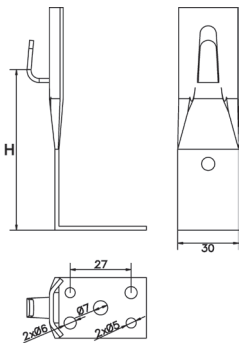

* to choose the color, add a letter to the last digit of the catalog number:
**B** – brown
**C** – brick
**A** – black

# ANGULAR HOLDERS

## Angular holder



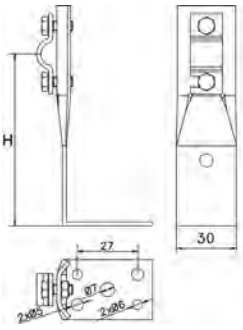
| catalog No. | H [cm] | material | cable range |
|---|---|---|---|
| AH05011 | 6 | electro galvanized steel | Ø 8-10mm |
| AH05031 | 8 | | |
| AH05051 | 15 | | |
| AH0501OG | 6 | hot-dip galvanized steel | |
| AH0503OG | 8 | | |
| AH0505OG | 15 | | |
| AH05012 | 6 | Cu | |
| AH05032 | 8 | | |
| AH05052 | 15 | | |
| AH05013 | 6 | INOX | |
| AH05033 | 8 | | |
| AH05053 | 15 | | |
| AH05014 | 6 | Al | |
| AH05034 | 8 | | |




## Angular holder, screwed



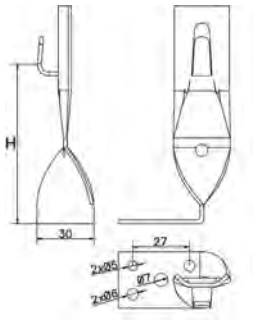
| catalog No. | H [cm] | material | cable range | bolts |
|---|---|---|---|---|
| AH05021 | 6 | electro galvanized steel | Ø 8-10mm | 2xM5x16 |
| AH05041 | 8 | | | |
| AH05061 | 15 | | | |
| AH0502OG | 6 | hot-dip galvanized steel | | |
| AH0504OG | 8 | | | |
| AH0506OG | 15 | | | |
| AH05022 | 6 | Cu/Mo | | |
| AH05042 | 8 | | | |
| AH05062 | 15 | | | |



## Angular holder, twisted



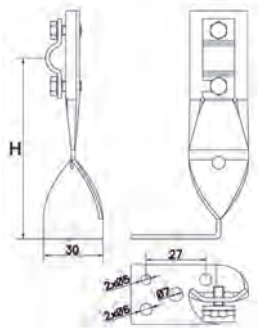
| catalog No. | H [cm] | material | cable range |
|---|---|---|---|
| AH05071 | 7 | electro galvanized steel | Ø 8-10mm |
| AH05091 | 14 | | |
| AH0507OG | 7 | hot-dip galvanized steel | |
| AH0509OG | 14 | | |
| AH05072 | 7 | Cu | |
| AH05092 | 14 | | |
| AH05073 | 7 | INOX | |
| AH05093 | 14 | | |
| AH05074 | 7 | Al | |




## Angular holder, screwed, twisted



| catalog No. | H [cm] | material | cable range | bolts |
|---|---|---|---|---|
| AH05081 | 7 | electro galvanized steel | Ø 8-10mm | 2xM5x16 |
| AH05101 | 14 | | | |
| AH0508OG | 7 | hot-dip galvanized steel | | |
| AH0510OG | 14 | | | |
| AH05082 | 7 | Cu/Mo | | |
| AH05102 | 14 | | | |




# ROUND CONDUCTOR HOLDERS

## Wire holder



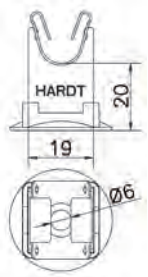
| catalog No. | H [mm] | material | cable range |
|---|---|---|---|
| AH020003IN | 15 | INOX | Ø 8mm |




## Wire holder with stand



| catalog No. | H [mm] | material | cable range |
|---|---|---|---|
| AH020004IN | 20 | INOX plastic | Ø 8mm |





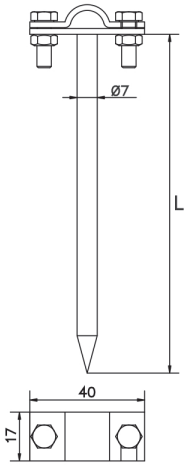





## Wire holder, hammer in



| catalog No. | L [cm] | material | cable range | bolts |
|---|---|---|---|---|
| AH07061 | 8 | electro galvanized steel | Ø 8-10mm | 2xM5x16 |
| AH07071 | 12 | | | |
| AH07081 | 18 | | | |
| AH07091 | 25 | | | |
| AH07361 | 33 | | | |
| AH0706OG | 8 | hot-dip galvanized steel | | |
| AH0707OG | 12 | | | |
| AH0708OG | 18 | | | |
| AH0709OG | 25 | | | |
| AH0736OG | 33 | | | |
| AH07062 | 8 | Cu/Mo | | |
| AH07072 | 12 | | | |
| AH07082 | 18 | | | |
| AH07092 | 25 | | | |
| AH07362 | 33 | | | |
| AH07063 | 8 | INOX | | |
| AH07073 | 12 | | | |
| AH07083 | 18 | | | |
| AH07093 | 25 | | | |
| AH07363 | 33 | | | |

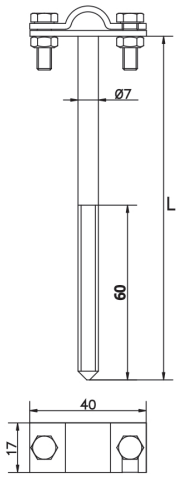



## Wire holder, thread





| catalog No. | L [cm] | material | cable range | bolts |
|---|---|---|---|---|
| AH07111 | 8 | electro galvanized steel | Ø 8-10mm | 2xM5x16 |
| AH07121 | 12 | | | |
| AH07131 | 18 | | | |
| AH07141 | 25 | | | |
| AH07371 | 33 | | | |
| AH07151 | 50 | | | |
| AH0711OG | 8 | hot-dip galvanized steel | | |
| AH0712OG | 12 | | | |
| AH0713OG | 18 | | | |
| AH0714OG | 25 | | | |
| AH0737OG | 33 | | | |
| AH0715OG | 50 | | | |
| AH07112 | 8 | Cu/Mo | | |
| AH07122 | 12 | | | |
| AH07132 | 18 | | | |
| AH07142 | 25 | | | |
| AH07372 | 33 | | | |
| AH07152 | 50 | | | |
| AH07113 | 8 | INOX | | |
| AH07123 | 12 | | | |
| AH07133 | 18 | | | |
| AH07143 | 25 | | | |
| AH07373 | 33 | | | |
| AH07153 | 50 | | | |

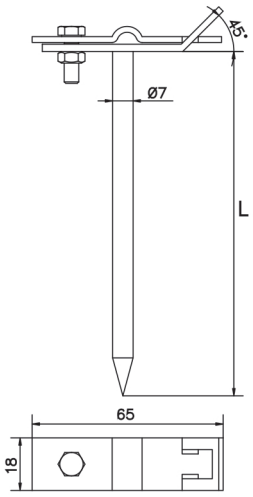


# UNIVERSAL HOLDERS

## Universal holder, hammer in



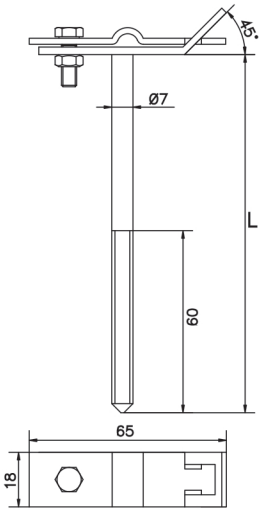
| catalog No. | L [cm] | material | cable range | bolts |
|---|---|---|---|---|
| AH06011 | 8 | electro galvanized steel | Ø 8-10mm tape up to 30 mm | 1xM5x16 |
| AH06021 | 12 | | | |
| AH06031 | 18 | | | |
| AH06041 | 25 | | | |
| AH06331 | 33 | | | |
| AH0601OG | 8 | hot-dip galvanized steel | | |
| AH0602OG | 12 | | | |
| AH0603OG | 18 | | | |
| AH0604OG | 25 | | | |
| AH0633OG | 33 | | | |
| AH06012 | 8 | Cu/Mo | | |
| AH06022 | 12 | | | |
| AH06032 | 18 | | | |
| AH06042 | 25 | | | |
| AH06332 | 33 | | | |
| AH06013 | 8 | INOX | | |
| AH06023 | 12 | | | |
| AH06033 | 18 | | | |
| AH06043 | 25 | | | |
| AH06333 | 33 | | | |




## Universal holder, thread



| catalog No. | L [cm] | material | cable range | bolts |
|---|---|---|---|---|
| AH06121 | 8 | electro galvanized steel | Ø 8-10mm tape up to 30 mm | 1xM5x16 |
| AH06131 | 12 | | | |
| AH06141 | 18 | | | |
| AH06151 | 25 | | | |
| AH06351 | 33 | | | |
| AH0612OG | 8 | hot-dip galvanized steel | | |
| AH0613OG | 12 | | | |
| AH0614OG | 18 | | | |
| AH0615OG | 25 | | | |
| AH0635OG | 33 | | | |
| AH06122 | 8 | Cu/Mo | | |
| AH06132 | 12 | | | |
| AH06142 | 18 | | | |
| AH06152 | 25 | | | |
| AH06352 | 33 | | | |
| AH06123 | 8 | INOX | | |
| AH06133 | 12 | | | |
| AH06143 | 18 | | | |
| AH06153 | 25 | | | |
| AH06353 | 33 | | | |

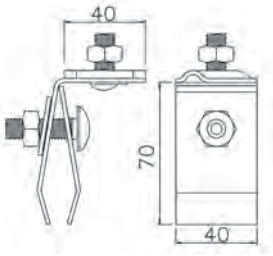


# HOLDERS FOR METAL ROOF

## Universal holder



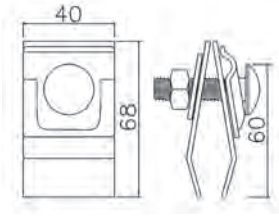
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH08051 | electro galvanized steel | Ø 8-10mm | 1xM10x30<br>2xM10x20 |
| AH0805OG | hot-dip galvanized steel | | |
| AH08052 | Cu/Mo | | |
| AH08053 | INOX | | |




## Sheet metal holder



| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH08061 | electro galvanized steel | Ø 8-10mm | 1xM10x40 |
| AH0806OG | hot-dip galvanized steel | | |
| AH08062 | Cu/Mo | | |
| AH08063 | INOX | | |

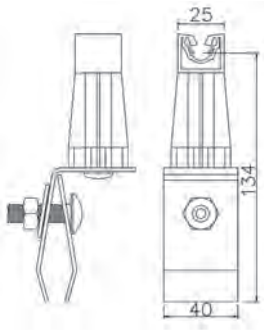



## Holder with post



| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH08071... | electro galvanized steel plastic | Ø 8mm | 1xM10x30<br>1xM6x10 |
| AH0807OG... | hot-dip galvanized steel plastic | | |
| AH08072... | Cu/Mo; plastic | | |
| AH08073... | INOX; plastic | | |

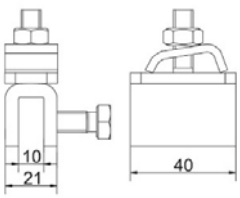
* to choose the color, add a letter to the last digit of the catalog number:
**B** – brown
**C** – brick
**A** – black




## Wire holder for structures



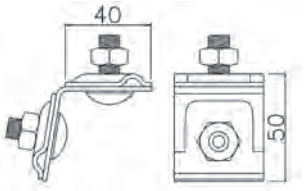
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH020002OG | hot-dip galvanized steel | Ø 8-10mm | 2xM8x20 |



## Universal holder



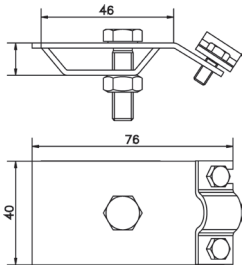
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH08101 | electro galvanized steel | Ø 8-10mm | 2xM10x20 |
| AH0810OG | hot-dip galvanized steel | | |
| AH08102 | Cu/Mo | | |
| AH08103 | INOX | | |




## Gutter clamp



| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH10011 | electro galvanized steel | Ø 8-10mm | 2xM5x16<br>1xM8x30 |
| AH1001OG | hot-dip galvanized steel | | |
| AH10012 | Cu/Mo | | |
| AH10013 | INOX | | |
| AH10014 | Al | | |



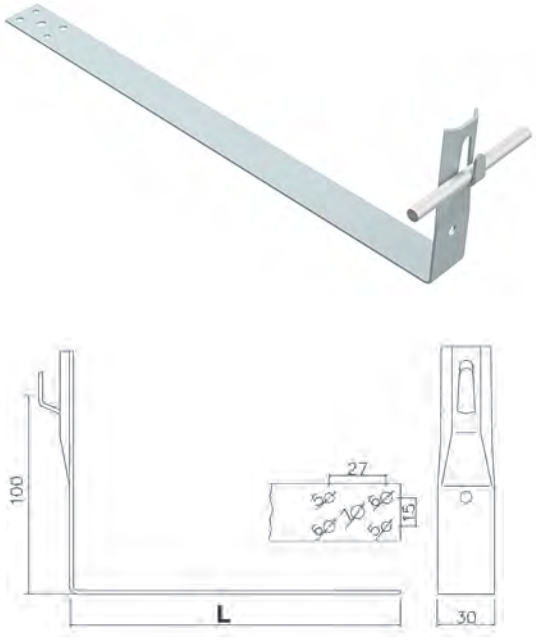




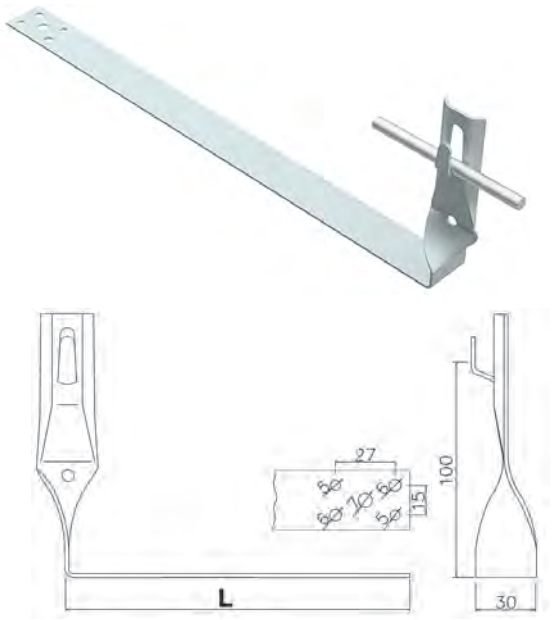
# TILE HOLDERS

## Tile holder screwed to the lath

| catalog No. | L [cm] | material | cable range |
|---|---|---|---|
| AH09011 | 38 | electro galvanized steel | Ø 8-10mm |
| AH09161 | 43 | | |
| AH0901OG | 38 | hot-dip galvanized steel | |
| AH0916OG | 43 | | |
| AH09012 | 38 | Cu | |
| AH09162 | 43 | | |
| AH09163 | 38 | INOX | |
| AH09353 | 43 | | |
| AH09014 | 38 | Al | |
| AH09164 | 43 | | |

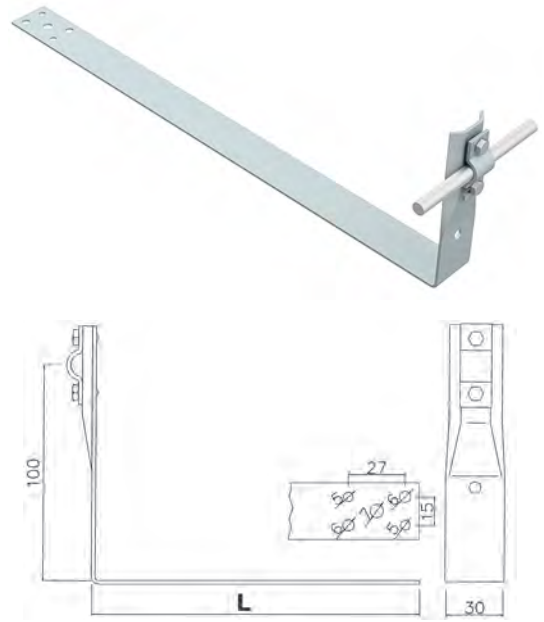


## Tile bracket screwed to the lath, twisted



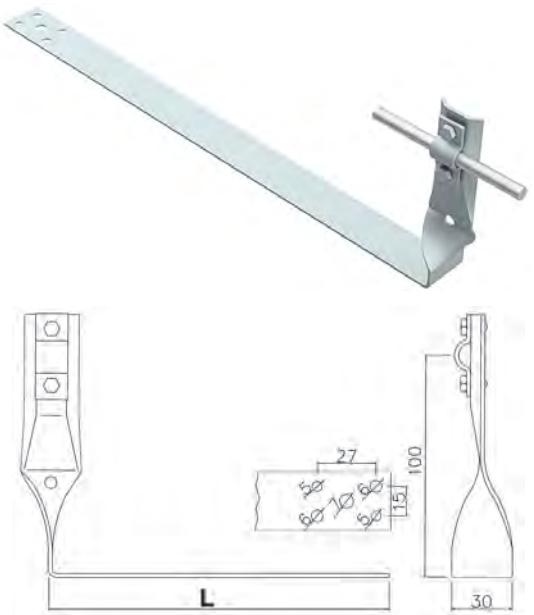

| catalog No. | L [cm] | material | cable range |
|---|---|---|---|
| AH09021 | 38 | electro galvanized steel | Ø 8-10mm |
| AH09171 | 43 | | |
| AH0902OG | 38 | hot-dip galvanized steel | |
| AH0917OG | 43 | | |
| AH09022 | 38 | Cu | |
| AH09172 | 43 | | |
| AH09173 | 38 | INOX | |
| AH09363 | 43 | | |
| AH09024 | 38 | Al | |
| AH09174 | 43 | | |

## Tile holder screwed to the lath



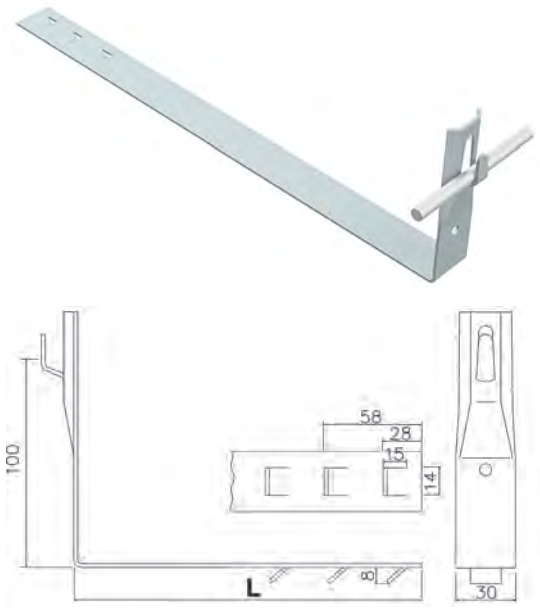

| catalog No. | L [cm] | material | cable range | bolts |
|---|---|---|---|---|
| AH09031 | 38 | electro galvanized steel | Ø 8-10mm | 2xM5x16 |
| AH09181 | 43 | | | |
| AH0903OG | 38 | hot-dip galvanized steel | | |
| AH0918OG | 43 | | | |
| AH09032 | 38 | Cu/Mo | | |
| AH09182 | 43 | | | |

## Tile bracket screwed to the lath, twisted



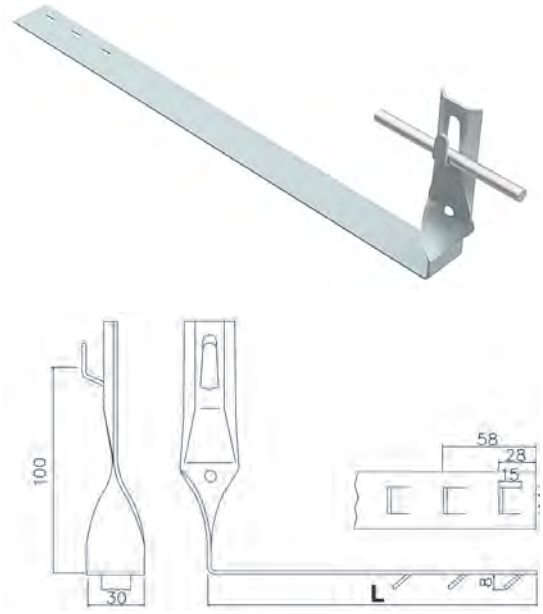

| catalog No. | L [cm] | material | cable range | bolts |
|---|---|---|---|---|
| AH09041 | 38 | electro galvanized steel | Ø 8-10mm | 2xM5x16 |
| AH09191 | 43 | | | |
| AH0904OG | 38 | hot-dip galvanized steel | | |
| AH0919OG | 43 | | | |
| AH09042 | 38 | Cu/Mo | | |
| AH09192 | 43 | | | |

## Adjustable tile holder



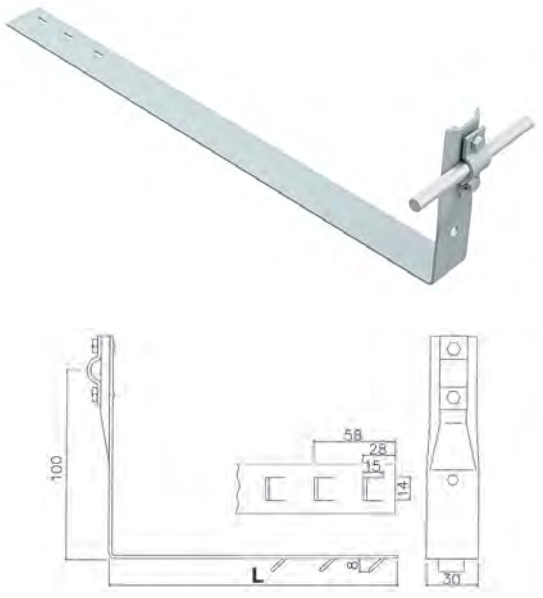

| catalog No. | L [cm] | material | cable range |
|---|---|---|---|
| AH09051 | 38 | electro galvanized steel | Ø 8-10mm |
| AH09201 | 43 | | |
| AH0905OG | 38 | hot-dip galvanized steel | |
| AH0920OG | 43 | | |
| AH09052 | 38 | Cu | |
| AH09202 | 43 | | |
| AH09053 | 38 | INOX | |
| AH09203 | 43 | | |
| AH09054 | 38 | Al | |
| AH09204 | 43 | | |

## Adjustable tile holder, twisted




| catalog No. | L [cm] | material | cable range |
|---|---|---|---|
| AH09061 | 38 | electro galvanized steel | Ø 8-10mm |
| AH09211 | 43 | | |
| AH0906OG | 38 | hot-dip galvanized steel | |
| AH0921OG | 43 | | |
| AH09062 | 38 | Cu | |
| AH09212 | 43 | | |
| AH09063 | 38 | INOX | |
| AH09213 | 43 | | |
| AH09064 | 38 | Al | |
| AH09214 | 43 | | |

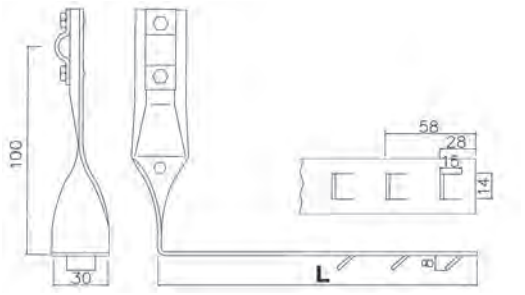
## Adjustable tile holder




| catalog No. | L [cm] | material | cable range | bolts |
|---|---|---|---|---|
| AH09071 | 38 | electro galvanized steel | Ø 8-10mm | 2xM5x16 |
| AH09221 | 43 | | | |
| AH0907OG | 38 | hot-dip galvanized steel | | |
| AH0922OG | 43 | | | |
| AH09072 | 38 | Cu/Mo | | |
| AH09222 | 43 | | | |

## Adjustable tile holder, screwed, twisted





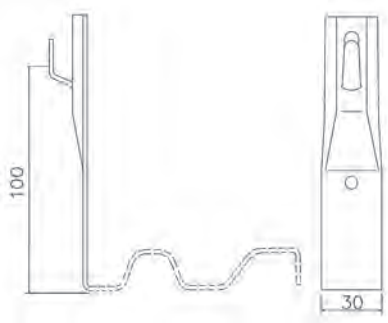

| catalog No. | L [cm] | material | cable range | bolts |
|---|---|---|---|---|
| AH09081 | 38 | electro galvanized steel | Ø 8-10mm | 2xM5x16 |
| AH09231 | 43 | | | |
| AH0908OG | 38 | hot-dip galvanized steel | | |
| AH0923OG | 43 | | | |
| AH09082 | 38 | Cu/Mo | | |
| AH09232 | 43 | | | |

## Profiled tile holder



| catalog No. | material | cable range |
|---|---|---|
| AH09251 | electro galvanized steel | Ø 8-10mm |
| AH0925OG | hot-dip galvanized steel | |
| AH09252 | Cu | |
| AH09253 | INOX | |
| AH09254 | Al | |

*Bend handle (before galvanizing) based on a roof tile provided by the customer.
This solution greatly improves the installation's aesthetics and makes assembly easier.

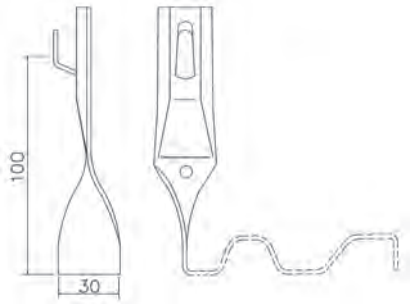



## Profiled tile holder, twisted



| catalog No. | material | cable range |
|---|---|---|
| AH09261 | electro galvanized steel | Ø 8-10mm |
| AH0926OG | hot-dip galvanized steel | |
| AH09262 | Cu | |
| AH09263 | INOX | |
| AH09264 | Al | |

*Bend handle (before galvanizing) based on a roof tile provided by the customer.
This solution greatly improves the installation's aesthetics and makes assembly easier.

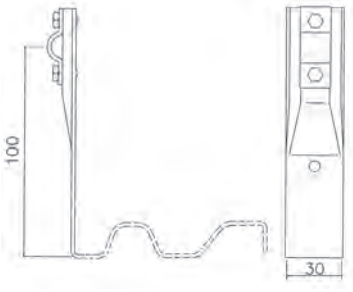



## Profiled tile holder, screwed



| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH09271 | electro galvanized steel | Ø 8-10mm | 2xM5x16 |
| AH0927OG | hot-dip galvanized steel | | |
| AH09272 | Cu/Mo | | |

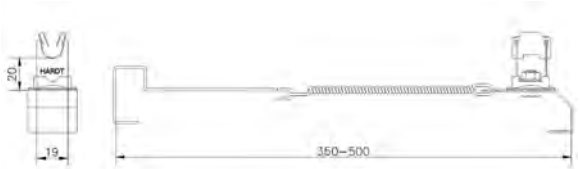
*Bend handle (before galvanizing) based on a roof tile provided by the customer.
This solution greatly improves the installation's aesthetics and makes assembly easier.



## Universal spring roof bracket

| catalog No. | material | cable range |
|---|---|---|
| AH020008IN | INOX | Ø 8-10mm |



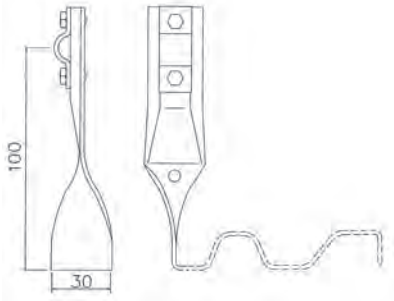



## Profiled tile holder, screwed, twisted



| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH09281 | electro galvanized steel | Ø 8-10mm | 2xM5x16 |
| AH0928OG | hot-dip galvanized steel | | |
| AH09282 | Cu/Mo | | |

*Bend handle (before galvanizing) based on a roof tile provided by the customer.
This solution greatly improves the installation's aesthetics and makes assembly easier.



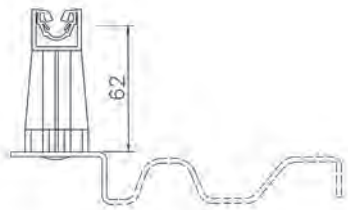

## Profiled tile holder, with post



| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH09341... | electro galvanized steel, plastic | Ø 8mm | 1xM6x10 |
| AH0934OG... | hot-dip galvanized steel plastic | | |
| AH09342 | Cu/Mo plastic | | |
| AH09343... | INOX plastic | | |
| AH09344... | Al plastic | | |

* to choose the color, add a letter to the last digit of the catalog number:
**B** – brown
**C** – brick
**A** – black

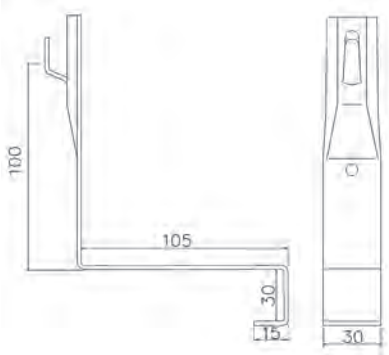
*Bend handle (before galvanizing) based on a ridge tile provided by the customer.
This solution greatly improves the installation's aesthetics and makes assembly easier.




## Universal tile holder



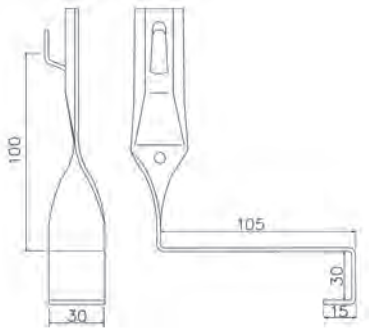
| catalog No. | material | cable range |
|---|---|---|
| AH09291 | electro galvanized steel | Ø 8-10mm |
| AH0929OG | hot-dip galvanized steel | |
| AH09292 | Cu | |
| AH09293 | INOX | |
| AH09294 | Al | |



## Universal tile holder, twisted



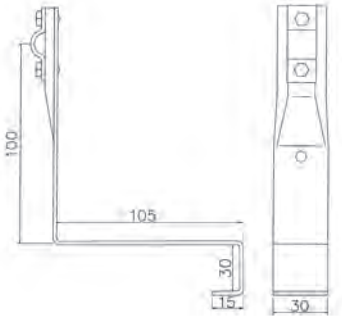
| catalog No. | material | cable range |
|---|---|---|
| AH09301 | electro galvanized steel | Ø 8-10mm |
| AH0930OG | hot-dip galvanized steel | |
| AH09302 | Cu | |
| AH09303 | INOX | |
| AH09304 | Al | |




## Universal tile holder, screwed



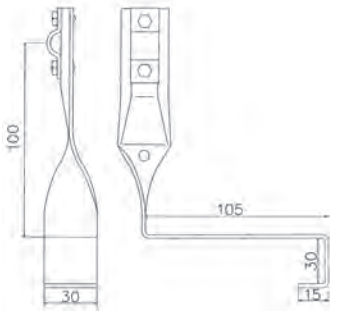
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH09311 | electro galvanized steel | Ø 8-10mm | 2xM5x16 |
| AH0931OG | hot-dip galvanized steel | | |
| AH09312 | Cu/Mo | | |




## Universal tile holder, screwed, twisted



| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH09321 | electro galvanized steel | Ø 8-10mm | 2xM5x16 |
| AH0932OG | hot-dip galvanized steel | | |
| AH09322 | Cu/Mo | | |

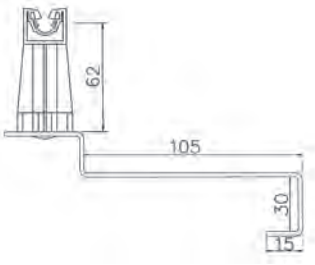



## Universal tile bracket, with post



| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH09331... | electro galvanized steel plastic | Ø 8mm | 1xM6x10 |
| AH0933OG... | hot-dip galvanized steel plastic | | |
| AH09332... | Cu/Mo plastic | | |
| AH09333... | INOX plastic | | |
| AH09334... | Al plastic | | |

* to choose the color, add a letter to the last digit of the catalog number:
**B** – brown
**C** – brick
**A** – black

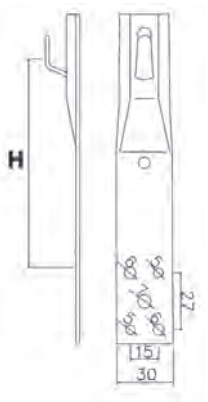


# STRAIGHT HOLDERS

## Straight holder



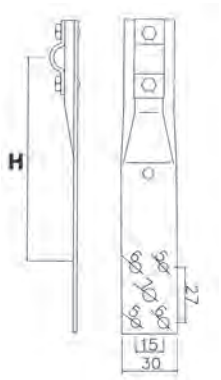
| catalog No. | H [cm] | material | cable range |
|---|---|---|---|
| AH11011 | 6 | electro galvanized steel | Ø 8-10mm |
| AH11031 | 8 | | |
| AH11051 | 15 | | |
| AH1101OG | 6 | hot-dip galvanized steel | |
| AH1103OG | 8 | | |
| AH1105OG | 15 | | |
| AH11012 | 6 | Cu | |
| AH11032 | 8 | | |
| AH11052 | 15 | | |
| AH11013 | 6 | INOX | |
| AH11033 | 8 | | |
| AH11053 | 15 | | |
| AH11014 | 6 | Al | |
| AH11034 | 8 | | |
| AH11054 | 15 | | |

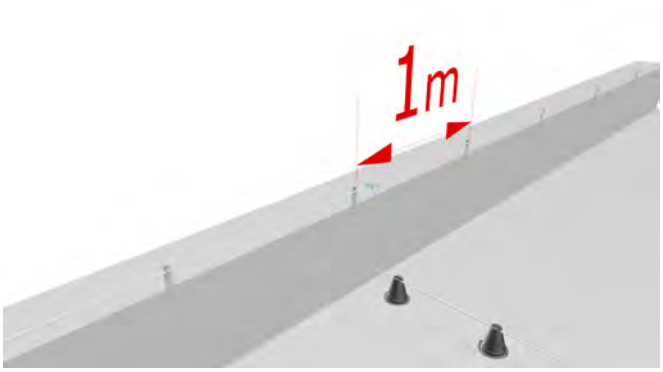



## Straight holder, screwed



| catalog No. | H [cm] | material | cable range | bolts |
|---|---|---|---|---|
| AH11021 | 6 | electro galvanized steel | Ø 8-10mm | 2xM5x16 |
| AH11041 | 8 | | | |
| AH11061 | 15 | | | |
| AH1102OG | 6 | hot-dip galvanized steel | | |
| AH1104OG | 8 | | | |
| AH1106OG | 15 | | | |
| AH11022 | 6 | Cu/Mo | | |
| AH11042 | 8 | | | |
| AH11062 | 15 | | | |



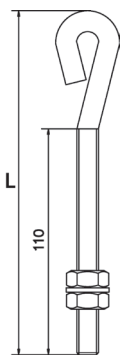




# TENSION HOLDERS

## Tension bracket, loop



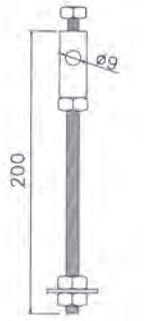
| catalog No. | L [cm] | material | cable range | bolts |
|---|---|---|---|---|
| AH13011 | 16 | electro galvanized steel | Ø 8-10mm | M10x110 |
| AH13021 | 25 | | | |
| AH13031 | 40 | | | |
| AH13013 | 16 | INOX | | |
| AH13023 | 25 | | | |
| AH13033 | 40 | | | |



## Tension holder, with lock



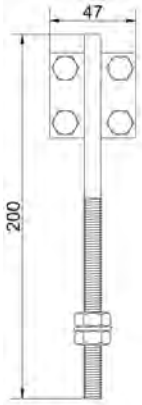
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH13081 | electro galvanized steel | Ø 8mm | M10x110 |
| AH13082 | Mo electro galvanized steel | | |




## Tension holder, reel

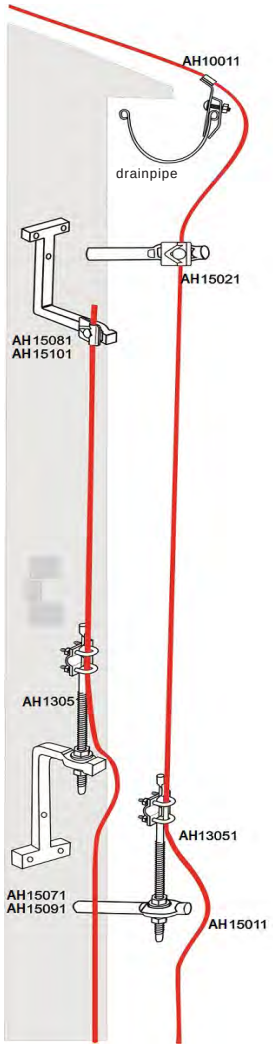


| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH13051 | electro galvanized steel | Ø 8-10mm | M10x110 |



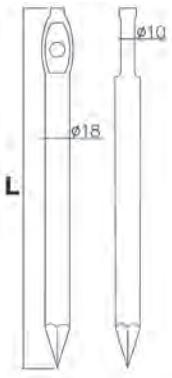

# ANCHORS

## Single hammer in anchor




| catalog No. | L [cm] | material | cable range |
|---|---|---|---|
| AH15011 | 35 | electro galvanized steel | Ø 8mm |
| AH15041 | 50 | | |
| AH15111 | 70 | | |
| AH1501OG | 35 | hot-dip galvanized steel | |
| AH1504OG | 50 | | |
| AH1511OG | 70 | | |
| AH15013 | 35 | INOX | |
| AH15043 | 50 | | |
| AH15113 | 70 | | |

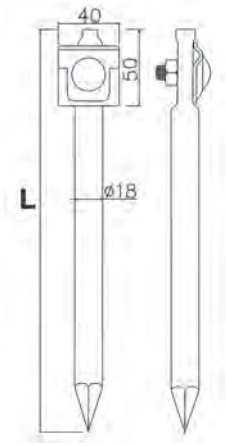




## Hammer in anchor with lock



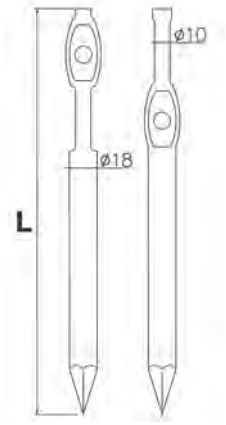
| catalog No. | L [cm] | material | cable range |
|---|---|---|---|
| AH15021 | 35 | electro galvanized steel | Ø 8mm |
| AH15051 | 50 | | |
| AH15121 | 70 | | |
| AH1502OG | 35 | hot-dip galvanized steel | |
| AH1505OG | 50 | | |
| AH1512OG | 70 | | |
| AH15022 | 35 | Cu/Mo | |
| AH15052 | 50 | | |
| AH15122 | 70 | | |
| AH15023 | 35 | INOX | |
| AH15053 | 50 | | |
| AH15123 | 70 | | |




## Double hammer in anchor



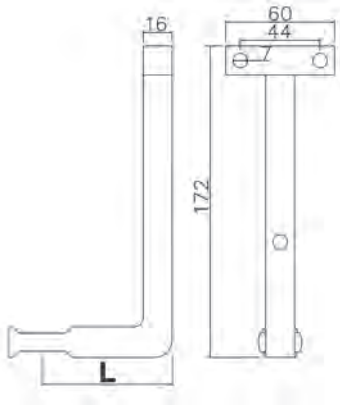
| catalog No. | L [cm] | material | cable range |
|---|---|---|---|
| AH15031 | 35 | electro galvanized steel | Ø 8mm |
| AH15061 | 50 | | |
| AH15131 | 70 | | |
| AH1503OG | 35 | hot-dip galvanized steel | |
| AH1506OG | 50 | | |
| AH1513OG | 70 | | |
| AH15033 | 35 | INOX | |
| AH15063 | 50 | | |
| AH15133 | 70 | | |




## Screw anchor



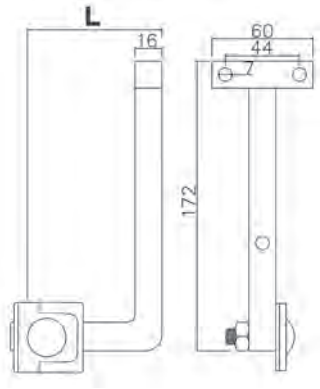
| catalog No. | L [cm] | material | cable range |
|---|---|---|---|
| AH15071 | 7 | electro galvanized steel | Ø 8mm |
| AH15091 | 15 | | |
| AH1507OG | 7 | hot-dip galvanized steel | |
| AH1509OG | 15 | | |
| AH15073 | 7 | INOX | |
| AH15093 | 15 | | |



## Screw anchor with lock



| catalog No. | L [cm] | material | cable range |
|---|---|---|---|
| AH15081 | 7 | electro galvanized steel | Ø 8mm |
| AH15101 | 15 | | |
| AH1508OG | 7 | hot-dip galvanized steel | |
| AH1510OG | 15 | | |
| AH15082 | 7 | Cu/Mo | |
| AH15102 | 15 | | |
| AH15083 | 7 | INOX | |
| AH15103 | 15 | | |

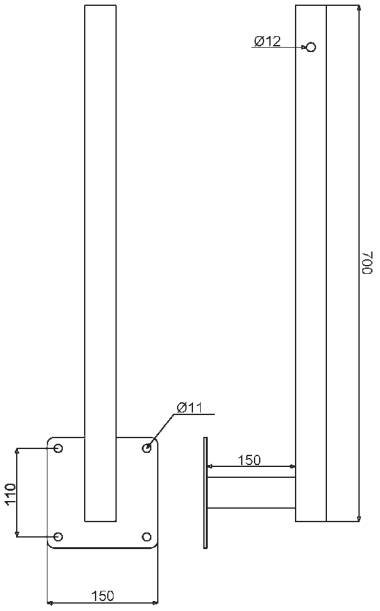



## Tension holder



| catalog No. | material | cable range |
|---|---|---|
| AH15171 | electro galvanized steel | Ø 8-10mm |
| AH1517OG | hot-dip galvanized steel | |
| AH15173 | INOX | |

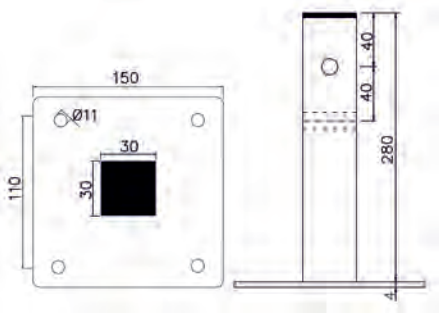
*NOTE
the holes in plates are rounds for size M10




## Tension holder (screw anchor)



| catalog No. | material | cable range |
|---|---|---|
| AH1518OG | hot-dip galvanized steel | Ø 8-10mm |

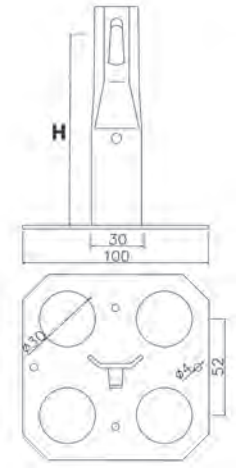


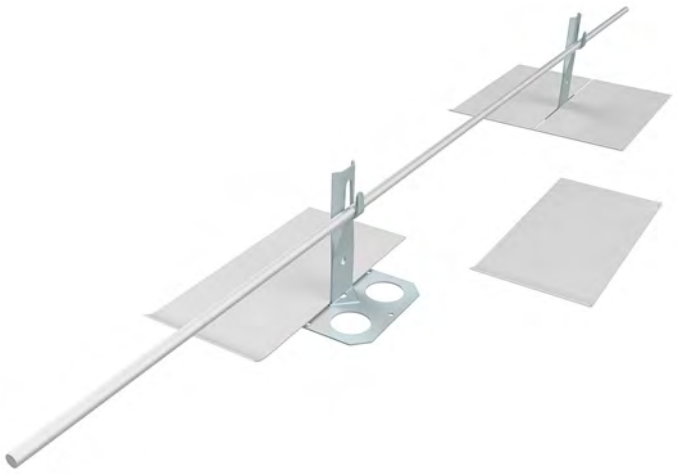
# HOLDERS WITH A METAL BASE

## Glued holder on a metal base with holes, screwed



| catalog No. | H [cm] | material | cable range |
|---|---|---|---|
| AH12061 | 9 | electro galvanized steel | Ø 8-10mm |
| AH12101 | 15 | | |
| AH1206OG | 9 | hot-dip galvanized steel | |
| AH1210OG | 15 | | |
| AH12062 | 9 | Cu | |
| AH12102 | 15 | | |
| AH12063 | 9 | INOX | |
| AH12103 | 15 | | |

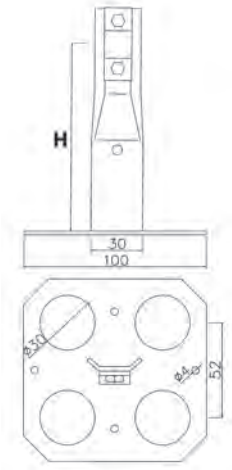


## Glued holder on a metal base with holes



| catalog No. | H [cm] | material | cable range | bolts |
|---|---|---|---|---|
| AH12071 | 9 | electro galvanized steel | Ø 8-10mm | 2xM5x16 |
| AH12111 | 15 | | | |
| AH1207OG | 9 | hot-dip galvanized steel | | |
| AH1211OG | 15 | | | |
| AH12072 | 9 | Cu/Mo | | |
| AH12112 | 15 | | | |

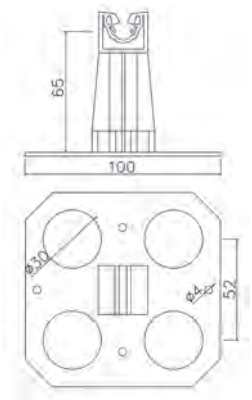



## Glued holder on a metal base with holes, with post



| catalog No. | material | cable range |
|---|---|---|
| AH12131... | electro galvanized steel | Ø 8mm |
| AH1213OG... | hot-dip galvanized steel | |
| AH12132... | Cu | |
| AH12133... | INOX | |
| AH12134... | Al | |

* to choose the color, add a letter to the last digit of the catalog number:
**B** – brown
**C** – brick
**A** – black



# CONCRETE HOLDERS IN PLASTIC

## Concrete holder in plastic – (weight ~1kg)

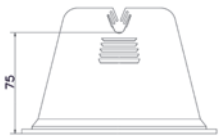


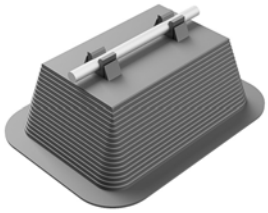
| catalog No. | material | cable range |
|---|---|---|
| AH12140P | polypropylene concrete | Ø 8-10mm |



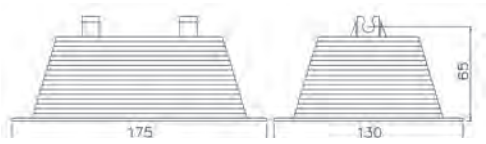



| catalog No. | material | cable range |
|---|---|---|
| AH12140A | polypropylene concrete | Ø 8mm |



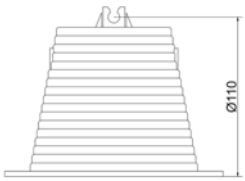



| catalog No. | material | cable range |
|---|---|---|
| AH12170 | polypropylene concrete | Ø 8mm |





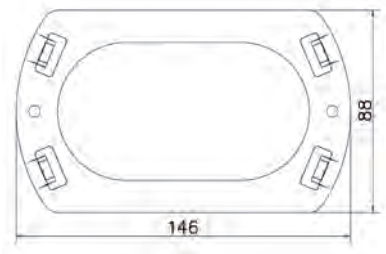

| catalog No. | material | cable range |
|---|---|---|
| AH020001TWB | polypropylene concrete | Ø 8mm |

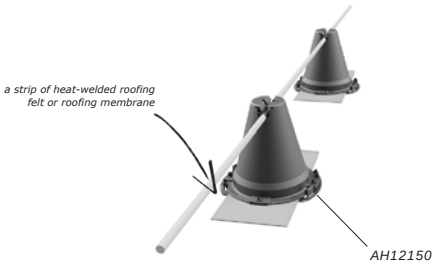


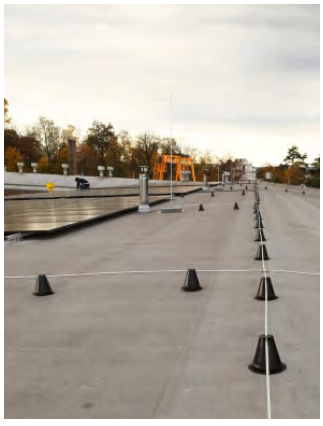

## Plastic base



| catalog No. | material |
|---|---|
| AH12150 | polypropylene |



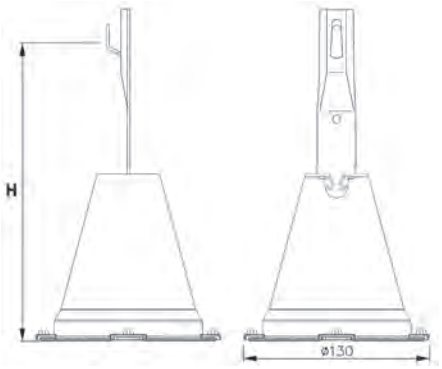




## Concrete holder in plastic



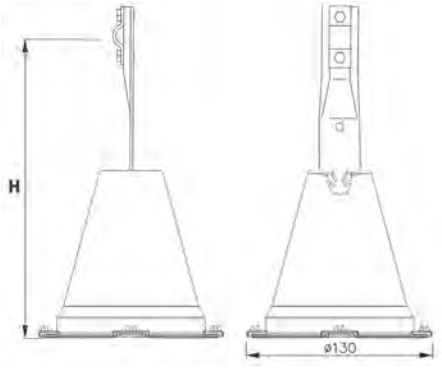
| catalog No. | H [cm] | material | cable range |
|---|---|---|---|
| AH12201P | 19 | electro galvanized steel polypropylene concrete | Ø 8-10mm |
| AH12221P | 21 | | |
| AH12241P | 28 | | |
| AH1220OGP | 19 | hot-dip galvanized steel polypropylene concrete | |
| AH1222OGP | 21 | | |
| AH1224OGP | 28 | | |
| AH12202P | 19 | Cu/Mo polypropylene concrete | |
| AH12222P | 21 | | |
| AH12242P | 28 | | |
| AH12203P | 19 | INOX polypropylene concrete | |
| AH12223P | 21 | | |
| AH12243P | 28 | | |
| AH12204P | 19 | Al polypropylene concrete | |
| AH12224P | 21 | | |
| AH12244P | 28 | | |




## Concrete holder in plastic, screwed



| catalog No. | H [cm] | material | cable range |
|---|---|---|---|
| AH12211P | 19 | electro galvanized steel polypropylene concrete | Ø 8-10mm |
| AH12231P | 21 | | |
| AH12251P | 28 | | |
| AH1221OGP | 19 | hot-dip galvanized steel polypropylene concrete | |
| AH1223OGP | 21 | | |
| AH1225OGP | 28 | | |
| AH12212P | 19 | Cu/Mo polypropylene concrete | |
| AH12232P | 21 | | |
| AH12252P | 28 | | |

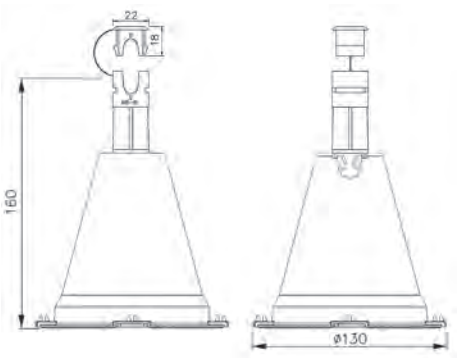



## Concrete holder in plastic with post



| catalog No. | material | cable range |
|---|---|---|
| AH12190P... | polypropylene plastic concrete | Ø 8mm |

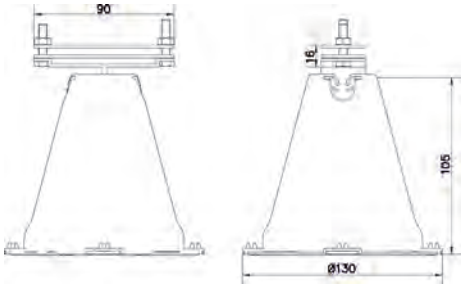
* to choose the color, add a letter to the last digit of the catalog number
**B** – brown
**C** – brick
**A** – black



## Concrete tape holder; horizontally



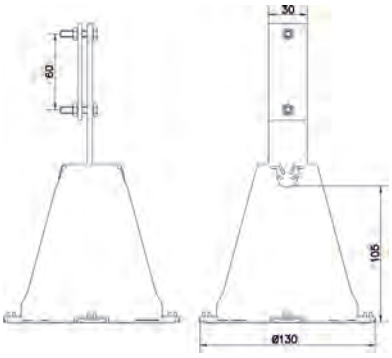
| catalog No. | material | cable range |
|---|---|---|
| AH12261P | electro galvanized steel polypropylene | tape up to 50 mm |
| AH1226OGP | hot-dip galvanized steel polypropylene | |
| AH12262P | Cu polypropylene | |
| AH12263P | INOX polypropylene | |
| AH12264P | Al polypropylene | |




## Concrete holder in plastic for the tape; vertically



| catalog No. | material | cable range |
|---|---|---|
| AH12271P | electro galvanized steel polypropylene | tape up to 50 mm |
| AH1227OGP | hot-dip galvanized steel polypropylene | |
| AH12272P | Cu polypropylene | |

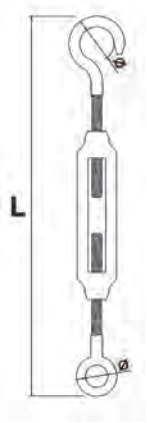



# TURNBUCKLES SCREWS

## Turnbuckle screw, hook-loop



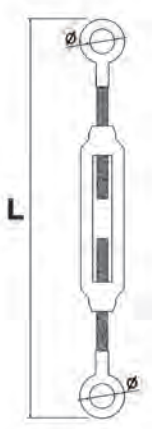
| catalog No. | H [mm] | Ø [mm] | material | cable range | bolts |
|---|---|---|---|---|---|
| AH18001 | 205-295 | 14 | electro galvanized steel | Ø 8-10mm | M10x125 |
| AH18051 | 233-310 | 16 | | | M12x125 |




## Turnbuckle screw, loop-loop



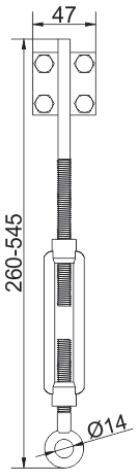
| catalog No. | H [mm] | Ø [mm] | material | cable range | bolts |
|---|---|---|---|---|---|
| AH18011 | 205-295 | 14 | electro galvanized steel | Ø 8-10mm | M10x125 |
| AH18021 | 233-310 | 16 | | | M12x125 |



## Turnbuckle screw, reel-loop



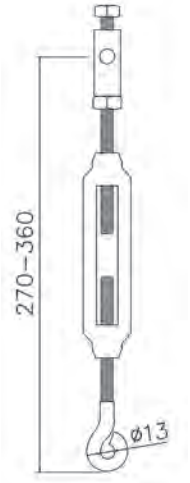
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH18031 | electro galvanized steel | Ø 8-10mm | M10x125 |




## Turnbuckle screw, sleeve-loop



| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH18042 | electro galvanized steel Mo | Ø 8mm | M10x125 |




# UNIVERSAL PIPE HOLDERS

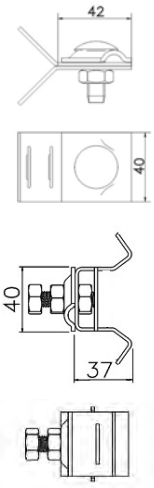
## Universal holder





| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH020001OC | electro galvanized steel | Ø 8mm | M10x30 |
| AH19091 | | | |

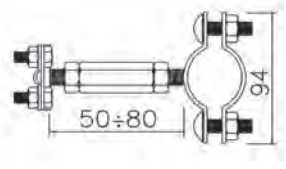
*No stainless tape included. Dedicated product: stainless steel tape 23x0,3mm nr AH23063.



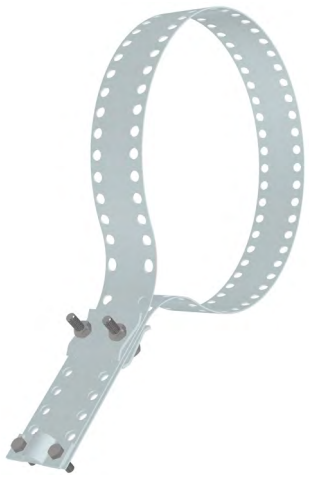

## Wire holder for railing/pipe Ø30-45 mm



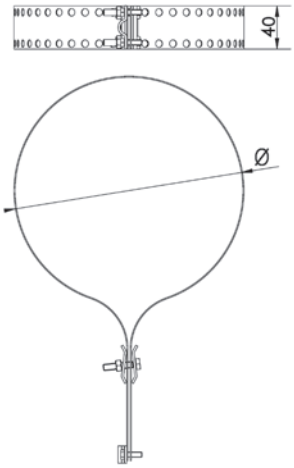
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH41681 | electro galvanized steel | Ø 8-10mm tape up to 20 mm | 4xM8x16 |



## Universal holder– belt



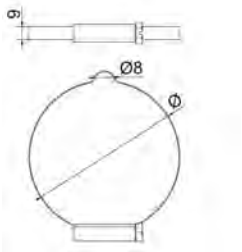
| Catalog No. | Ø[mm] | material | cable range | bolts |
|---|---|---|---|---|
| AH19012 | do 30 | Cu/Mo | Ø8-10mm | 2xM5x16 2xM6x30 |
| AH19022 | do 92 | | | |
| AH19032 | 62-156 | | | |
| AH19042 | 124-222 | | | |
| AH19052 | 220-570 | | | |
| AH19013 | do 30 | INOX | | |
| AH19023 | do 92 | | | |
| AH19033 | 62-156 | | | |
| AH19043 | 124-222 | | | |
| AH19053 | 220-570 | | | |
| AH19014 | do 30 | aluminum | | |
| AH19024 | do 92 | | | |
| AH19034 | 62-156 | | | |
| AH19044 | 124-222 | | | |
| AH19054 | 220-570 | | | |




## Pipe clamp



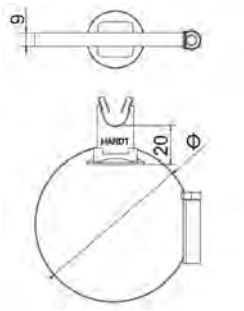
| Catalog No. | Ø[mm] | material | cable range |
|---|---|---|---|
| AH020009IN | 80-100 | acid-resistant stainless steel | Ø8 |
| AH020010IN | 100-120 | | |




## Pipe clamp with connector



| Catalog No. | Ø[mm] | material | cable range |
|---|---|---|---|
| AH020011IN | 80-100 | acid-resistant stainless steel | Ø8 |
| AH020012IN | 100-120 | | |



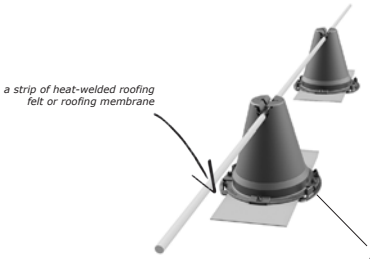

# PLASTIC HOLDERS

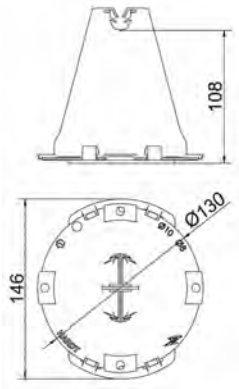
## Holder in plastic



| Catalog No. | material | cable range | weight |
|---|---|---|---|
| AH020001TW | plastic | Ø 8-10mm | 0,1 kg |

**Fastening to the substrate with a strip of membrane / roof felt by gluing.**
**Holder without bottom and without base, with product AH 12150 included.**



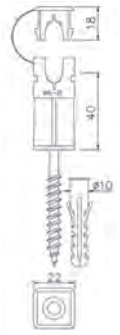



## Post with wall plug



| catalog No. | material | cable range | pin |
|---|---|---|---|
| AH29020... | plastic<br>electro<br>galvanized steel | Ø 8mm | Ø 10x50mm |

* to choose the color, add a letter to the last digit of the catalog number:
**B** – brown
**C** – brick
**A** – black




## Post

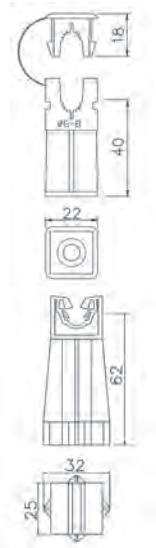




| catalog No. | material | cable range |
|---|---|---|
| AH29010... | plastic | Ø 8mm |

| catalog No. | material | cable range | thread |
|---|---|---|---|
| AH29060... | plastic | Ø 8mm | M6 |

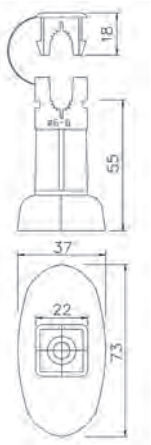
* to choose the color, add a letter to the last digit of the catalog number:
**B** – brown
**C** – brick
**A** – black




## Post with a ceramic base



| catalog No. | material | cable range | color of the base |
|---|---|---|---|
| AH29040 | plastic<br>ceramics | Ø 8mm | brick |
| AH29070 | | | brown |

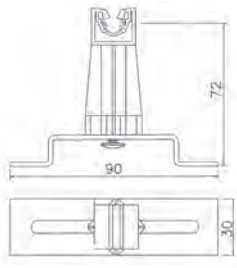



## Post with a steel base



| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH29061... | plastic<br>electro<br>galvanized steel | Ø 8mm | 1xM6x10 |

* to choose the color, add a letter to the last digit of the catalog number:
**B** – brown
**C** – brick
**A** – black









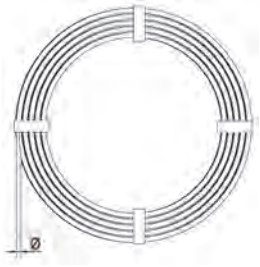

# LIGHTNING CONDUCTORS

## ROUND CONDUCTORS

### Lightning protection conductor – wire



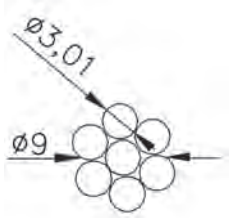
| catalog No. | Ø [mm] | converter | material | section [mm²] |
|---|---|---|---|---|
| AH22021 | 8 | 0.4 kg/m | hot-dip galvanized steel | 50 |
| AH22031 | 10 | 0.62 kg/m | | 78 |
| AH22022 | 8 | 0.448 kg/m | Cu | 50 |
| AH22032 | 10 | 0.7 kg/m | | 78 |
| AH22023 | 8 | 0.4 kg/m | INOX | 50 |
| AH22024 | 8 | 7.5mb/kg | Al | 50 |
| AH22034 | 10 | 4.75 mb/kg | | 78 |




### Lightning conductor – wire

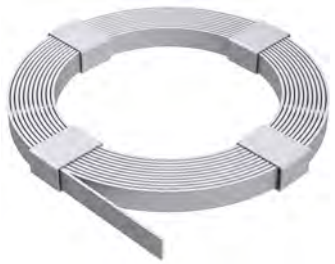


| catalog No. | material | section [mm²] |
|---|---|---|
| AH22044 | Al | 50 |

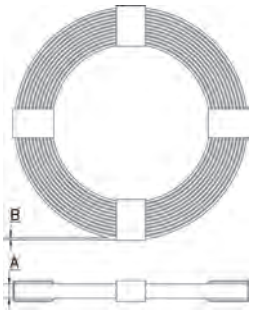



## FLAT CABLES

### Lightning protection conductor – tape



| catalog No. | A x B [mm] | converter | material |
|---|---|---|---|
| AH23021 | 25x4 | 0.79 kg/m | hot-dip galvanized steel |
| AH23041 | 30x4 | 0.94 kg/m | |
| AH23061 | 40x4 | 1.26 kg/m | |
| AH23071 | 50x4 | 1.573 kg/m | |
| AH23022 | 25x4 | 0.9 kg/m | Cu |
| AH23042 | 30x4 | 1.07 kg/m | |
| AH23053 | 30x3.5 | 0.82 kg/m | INOX |



# STRAIGHTENERS

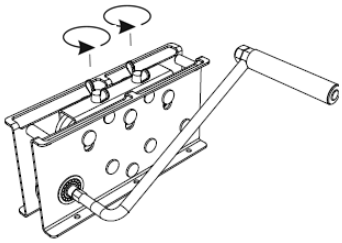
they are used for straightening
grounding wire
and the tape iron

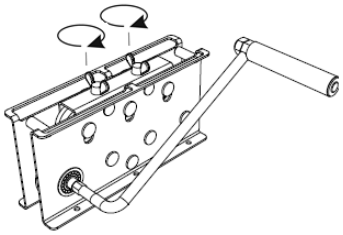
## STRAIGHTENERS WITH MANUAL DRIVE

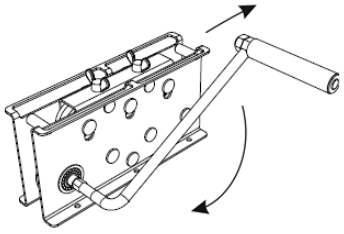
### 7-roller straightener with manual drive



| catalog No. | cable range | material | weight [kg] |
|---|---|---|---|
| AH040001OC | Ø 8-10mm tape 20x3 - 40x4 | electro galva-nized steel | ~11 |







### Three-legged base with roller (folded)



| catalog No. | material | weight [kg] |
|---|---|---|
| AH24091 | electro galva-nized steel | ~11 |

# NOTES

# LIGHTNING PROTECTION PIPES

they are used to protect the lightning conductors

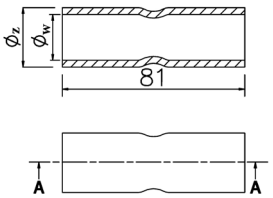
## LIGHTNING PROTECTION PIPES

### Lightning protection pipe

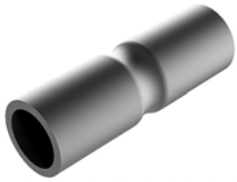


| catalog No. | cable range | Øz [mm] | Øw [mm] | material |
|---|---|---|---|---|
| AH36010 | Ø up to 12 mm | 20 | 14 | PCV |
| AH36020 | tape up to 30 | 40 | 34 | |

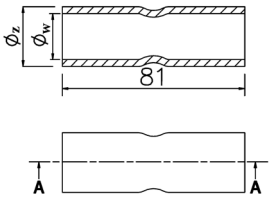
*Pipes are sold in sections 3 m in length.




### Coupling for connecting lightning protection pipes



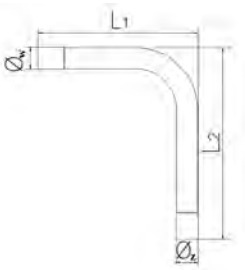
| catalog No. | cable range | Øz [mm] | Øw [mm] | material |
|---|---|---|---|---|
| AH36030 | Ø up to 12 mm | 26 | 20 | PCV |
| AH36040 | tape up to 30 | 46 | 40 | |




### Lightning pipe elbow



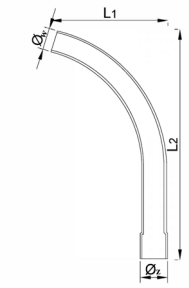
| catalog No. | L1 [mm] | L2 [mm] | Øz [mm] | Øw [mm] | cable range | material |
|---|---|---|---|---|---|---|
| AH36050 | 125 | 200 | 26 | 23 | Ø up to 12 mm | PCV |
| AH36060 | 170 | 255 | 46 | 44 | tape up to 30 | |




### Lightning pipe elbow 30°



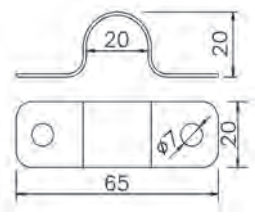
| catalog No. | L1 [mm] | L2 [mm] | Øz [mm] | Øw [mm] | cable range | material |
|---|---|---|---|---|---|---|
| AH36080 | 160 | 360 | 26 | 23 | Ø up to 12 mm | PCV |
| AH36090 | 170 | 420 | 46 | 44 | tape up to 30 | |




### Lightning pipe clamp Ø20



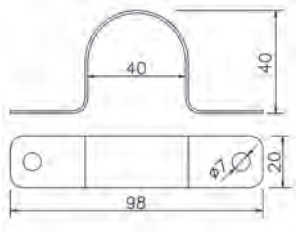
| catalog No. | cable range | material |
|---|---|---|
| AH36011 | Ø up to 20 mm | electro galva-nized steel |



## Lightning pipe clamp Ø40



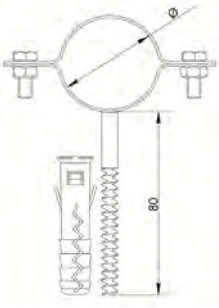
| catalog No. | cable range | material |
|---|---|---|
| AH36021 | Ø up to 40 mm | electro galva-nized steel |



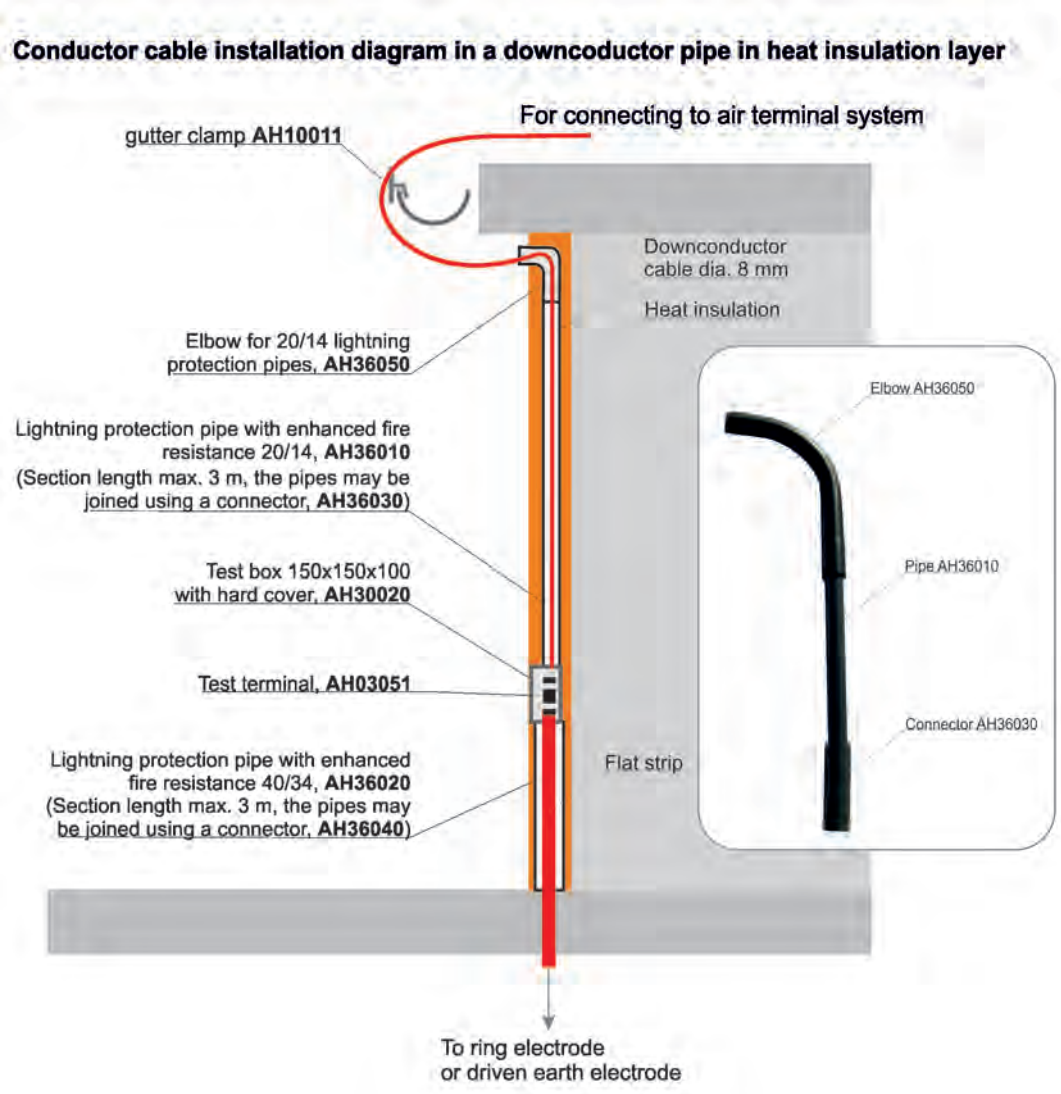

## Clamp for lightning protection pipe - screw-in



| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH050001OC | electro galva-nized steel | Ø20mm | 2xM6x16 |
| AH050002OC | electro galva-nized steel | Ø40mm | 2xM6x16 |



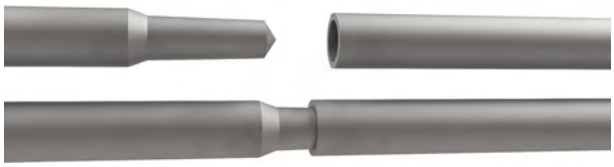

**Conductor cable installation diagram in a downconductor pipe in heat insulation layer**



# EARTHINGS AND ELEMENTS TO GROUND

they are used to make vertical earthings, supply and dissipate lightning current in the ground

All hot-dip galvanized earthings (according to PN-EN ISO 1461) have a zinc layer not less than 70 µm. The masts on a concrete foundation are galvanized the same way. Earthing diameter Ø14,Ø16,Ø18 and Ø20 allows using ordinary impact hammers and does not require specialized driving equipment. The same diameter makes it possible to measure the resistance during driving and if necessary, tapping another earthing. Earthing length tolerance +20mm/- 5mm.



Advantages of our folded earthings (machine taper lock):

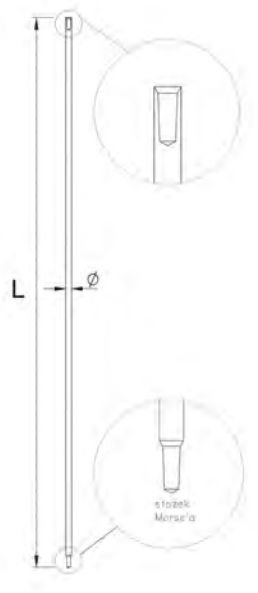
- **connection method** – machine taper, push-in, permanent mechanical and electrical connection clearly superior to threaded connection or one with a foreign filler (lead); lack of connectors reduces the price of the earthing
- **equal diameter** – possibility of measuring resistance during driving (measurement impossible while driving an earthing with connectors)
- **no separate tip** – reduces earthing price, enough for the most common applications; for very hard soils, we recommend using AH14031
- **ease of driving –** small diameters require ordinary impact hammers, no specialist driving equipment is needed

## EARTHINGS

### Earthing rod- Morse taper shank



| catalog No. | Ø [mm] | material | weight [kg] | L [mm] |
|---|---|---|---|---|
| AH14011 | 14 | hot-dip galvanized steel | 1,9 | 1500 |
| AH14021 | 16 | | 2,4 | 1500 |
| AH14041 | 18 | | 3 | 1500 |
| AH14101 | 20 | | 3,7 | 1500 |
| AH25023 | 18 | INOX | 3 | 1500 |
| AH25033 | 16 | | 2,4 | 1500 |
| AH25043 | 20 | | 3,7 | 1500 |



## Steel copper bonded earth rod



| catalog No. | Ø [mm] | material | weight [kg] | L [mm] |
|---|---|---|---|---|
| AH060001STCU | 16 | steel copper bonded | 2,4 | 1500 |

* upon request



## Driving device for steel copper bonded rod with SDS tip



| catalog No. | material | weight [kg] |
|---|---|---|
| AH060001ST | steel | 0,5 |

* upon request

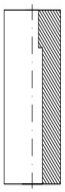


## The driving stud stabilizer to embed forged rods



| catalog No. | material | weight [kg] |
|---|---|---|
| AH060001TW | teflon | 0,12 |

* upon request



## Driving stud for forged rod



| catalog No. | material | weight [kg] |
|---|---|---|
| AH060002ST | steel | 0,06 |

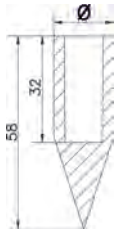
* upon request

# TIPS, MALLETS, CONNECTIONS

## Hard soil tip



| catalog No. | earthing AH | materiał |
|---|---|---|
| AH14031 | Ø 16-20mm | electro galva-nized steel |
| AH060003OC | Ø 14mm | |




## Driving device with SDS tip



| catalog No. | earthing AH | materiał |
|---|---|---|
| AH14161 | Ø 16-20mm | selectro galva-nized steel |
| AH060001OC | Ø 14mm | |




## Hand mallet for earthings



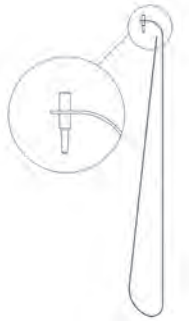
| catalog No. | earthing AH | materiał |
|---|---|---|
| AH14071 | Ø 16-20mm | electro galva-nized steel |
| AH060002OC | Ø 14mm | |




## Connection with welded tape



| catalog No. | earthing | material | cable range |
|---|---|---|---|
| AH14061 | Ø 16-20mm | electro galvanized steel | tape up to 30 mm length 3000 mm |

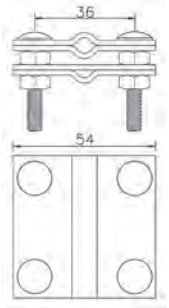


# EARTHING CONNECTORS

## 4-plate earth connector, small



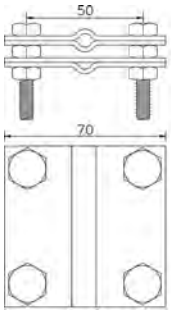
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH14231 | electro galvanized steel | Ø 8-10mm Ø rod 14-20 mm tape up to 30 min | 4xM6x40 |
| AH1423OG | hot-dip galvanized steel | | |
| AH14234 | Al/INOX | | |




## 4-plate earth connector, large



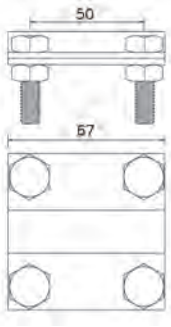
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH14241 | electro galvanized steel | Ø 8-10mm Ø rod 14-20 mm tape up to 40 min | 4xM8x40 |
| AH1424OG | hot-dip galvanized steel | | |
| AH14243 | INOX | | |
| AH14244 | Al/INOX | | |




## 2-plate earth connector, rod-tape



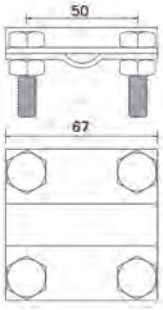
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH01211 | electro galvanized steel | Ø rod 14-20 mm tape up to 40 min | 4xM8x25 |
| AH0121OG | hot-dip galvanized steel | | |
| AH01212 | Cu/Mo | | |
| AH01214 | Al/INOX | | |
| AH01213 | INOX | | |




## 2-plate earth connector, rod-wire



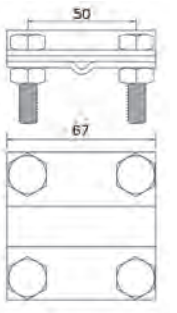
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH01221 | electro galvanized steel | Ø 8-10mm Ø rod 14-20 mm tape up to 40 min | 4xM8x25 |
| AH0122OG | hot-dip galvanized steel | | |
| AH01222 | Cu/Mo | | |
| AH01224 | Al/INOX | | |
| AH01223 | INOX | | |




## 3-plate earth connector



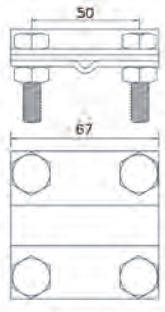
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH01231 | electro galvanized steel | Ø 8-10mm Ø rod 14-20 mm tape up to 40 mm | 4xM8x30 |
| AH0123OG | hot-dip galvanized steel | | |
| AH01234 | Al/INOX | | |
| AH01233 | INOX | | |



## 3-plate earth connector



| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH01232 | copper, brass, electro-galvanized steel, inox-bolts | Ø 8-10mm Ø rod 14-20 mm tape up to 40 mm | 4xM8x30 |

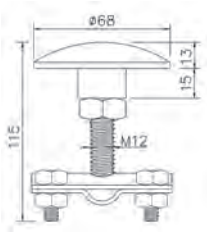



# COMPONENTS MOUNTED IN THE BUILDING'S REINFORCEMENT

## Mushroom



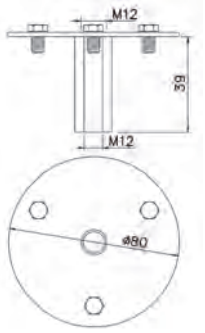
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH32011 | electro galvanized steel | tape up to 30 mm | 4xM8x16 |
| AH3201OG | hot-dip galvanized steel | | |
| AH32013 | INOX | | |




## Ground connection



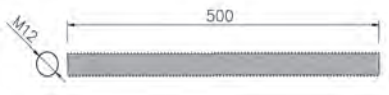
| catalog No. | material | bolts |
|---|---|---|
| AH32031 | electro galvanized steel | 3xM5x16 |
| AH3203OG | hot-dip galvanized steel | |
| AH32033 | INOX | |




## Threaded rod



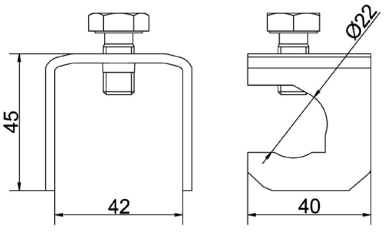
| catalog No. | material |
|---|---|
| AH32041 | electro galvanized steel |
| AH3204OG | hot-dip galvanized steel |




## Connection clamp for reinforcement



| catalog No. | material |
|---|---|
| AH060002OG | hot-dip galvanized steel |

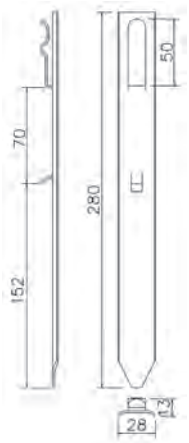


# TAPE BRACKETS

## Steel foundation tape bracket



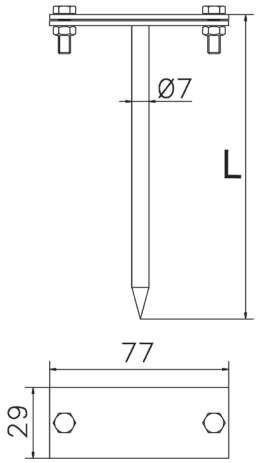
| catalog No. | material | cable range |
|---|---|---|
| AH17011 | electro galvanized steel | Ø 8-10mm tape up to 30 min |
| AH1701OG | hot-dip galvanized steel | |
| AH17012 | Cu | |
| AH17013 | INOX | |




## Universal knock in tape bracket



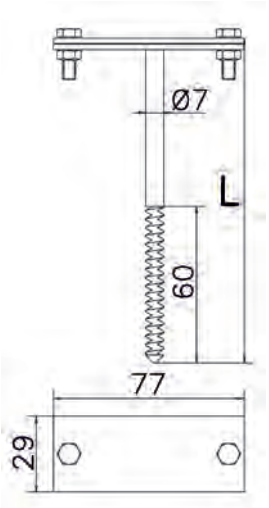
| catalog No. | L [cm] | material | cable range | bolts |
|---|---|---|---|---|
| AH06061 | 8 | electro galvanized steel | tape up to 50 mm | 2xM5x16 |
| AH06071 | 12 | | | |
| AH06081 | 18 | | | |
| AH0606OG | 8 | hot-dip galvanized steel | | |
| AH0607OG | 12 | | | |
| AH0608OG | 18 | | | |
| AH06062 | 8 | Cu/Mo | | |
| AH06072 | 12 | | | |
| AH06082 | 18 | | | |
| AH06063 | 8 | INOX | | |
| AH06073 | 12 | | | |
| AH06083 | 18 | | | |




## Universal screwed in tape bracket



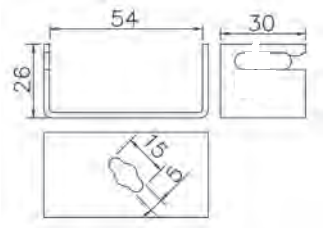
| catalog No. | L [cm] | material | cable range | bolts |
|---|---|---|---|---|
| AH06171 | 8 | electro galvanized steel | tape up to 50 mm | 2xM5x16 |
| AH06181 | 12 | | | |
| AH06391 | 18 | | | |
| AH0617OG | 8 | hot-dip galvanized steel | | |
| AH0618OG | 12 | | | |
| AH0639OG | 18 | | | |
| AH06172 | 8 | Cu/Mo | | |
| AH06182 | 12 | | | |
| AH06392 | 18 | | | |
| AH06173 | 8 | INOX | | |
| AH06183 | 12 | | | |
| AH06393 | 18 | | | |




## Steel tape bracket



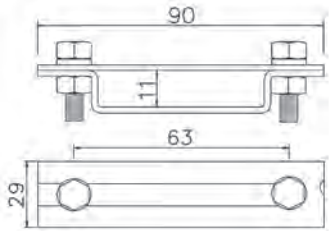
| catalog No. | material | cable range |
|---|---|---|
| AH26011P | electro galvanized steel | tape up to 50x5mm |
| AH26011 | | tape up to 50x4mm |
| AH2601OG | hot-dip galvanized steel | |
| AH26012 | Cu/Mo | |
| AH26013 | INOX | |



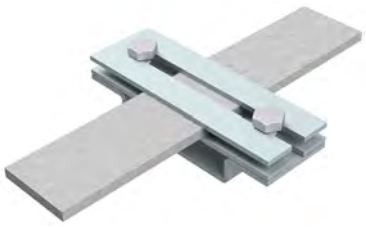
## Steel tape holder, 2-plate



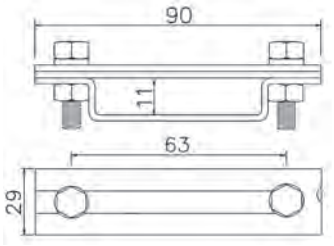
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH26031 | electro galvanized steel | tape up to 50 mm | 2xM6x20 |
| AH2603OG | hot-dip galvanized steel | | |
| AH26032 | Cu/Mo | | |
| AH26033 | INOX | | |




## Steel tape holder, 3-plate



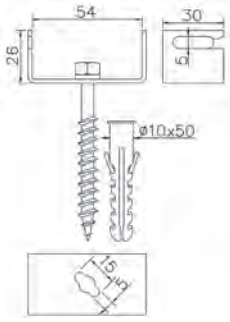
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH26051 | electro galvanized steel | tape up to 50 mm | 2xM6x20 |
| AH2605OG | hot-dip galvanized steel | | |
| AH26052 | Cu/Mo | | |
| AH26053 | INOX | | |




## Steel tape holder with wall plug



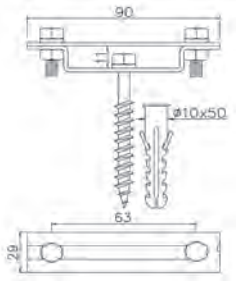
| catalog No. | material | cable range |
|---|---|---|
| AH26021 | electro galvanized steel | tape up to 50 mm |
| AH2602OG | hot-dip galvanized steel | |
| AH26022 | Cu/Mo | |
| AH26023 | INOX | |




## Steel tape holder with wall plug, 2-plate



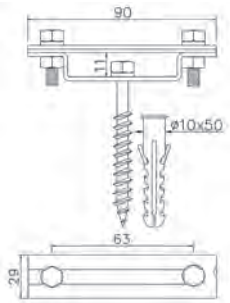
| catalog No. | material | cable range |
|---|---|---|
| AH26041 | electro galvanized steel | tape up to 50 mm |
| AH2604OG | hot-dip galvanized steel | |
| AH26042 | Cu/Mo | |
| AH26043 | INOX | |

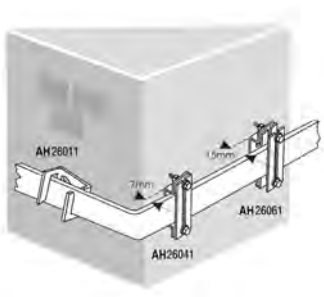



## Steel holder bracket with wall plug, 3-plate



| catalog No. | material | cable range |
|---|---|---|
| AH26061 | electro galvanized steel | tape up to 50 mm |
| AH2606OG | hot-dip galvanized steel | |
| AH26062 | Cu/Mo | |
| AH26063 | INOX | |



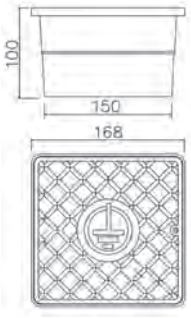
# CONTROL BOXES

## Wall-mounted control boxes



| catalog No. | material | color |
|---|---|---|
| AH30020... | plastic | grey white |

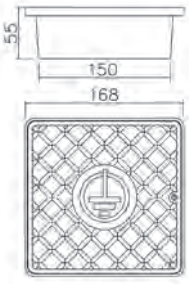
* to choose the color, add a letter to the last digit of the catalog number:
**B** – white
**S** – grey






| catalog No. | material | color |
|---|---|---|
| AH30040... | plastic | grey white |

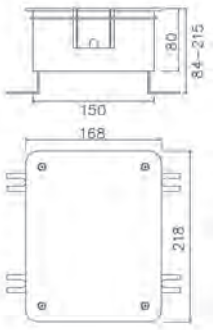
* to choose the color, add a letter to the last digit of the catalog number:
**B** – white
**S** – grey






| catalog No. | material | color |
|---|---|---|
| AH30050 | plastic | white/ orange |

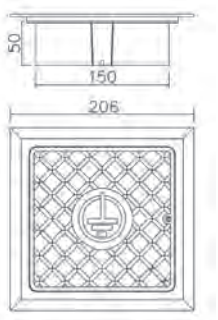
* one color available






| catalog No. | material | color |
|---|---|---|
| AH30080... | plastic | grey white |

* to choose the color, add a letter to the last digit of the catalog number:
**B** – white
**S** – grey

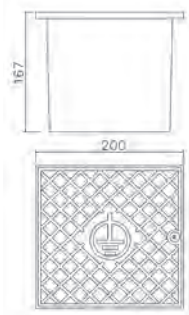



## Ground control boxes



| catalog No. | material | color |
|---|---|---|
| AH30060 | plastic | grey |

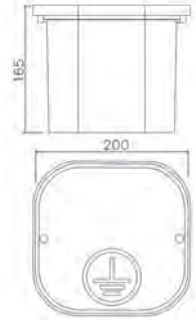
* one color available






| catalog No. | material | color |
|---|---|---|
| AH30070 | plastic | grey |

* one color available



# EQUIPOTENTIAL CONNECTIONS

## Grounding bands



| catalog No. | mounting range | cable range [mm²] | materiał |
|---|---|---|---|
| AH060001INOC | 1/8-4 cala | from 2,5 to 10 | stainless steel - band galvanised steel |
| AH060002INOC | 1/8-6 cala | from 2,5 to 16 | |
| AH060001IN | 1/8-4 cala | from 2,5 to 10 | acid-resistant stainless steel |

## Equipotential rails



| catalog No. | cables | material |
|---|---|---|
| AHK1309 | 7x do 25mm²<br>1x 8-10mm<br>1x do 30mm | Mo<br>nickel-coated<br>steel galvanized |



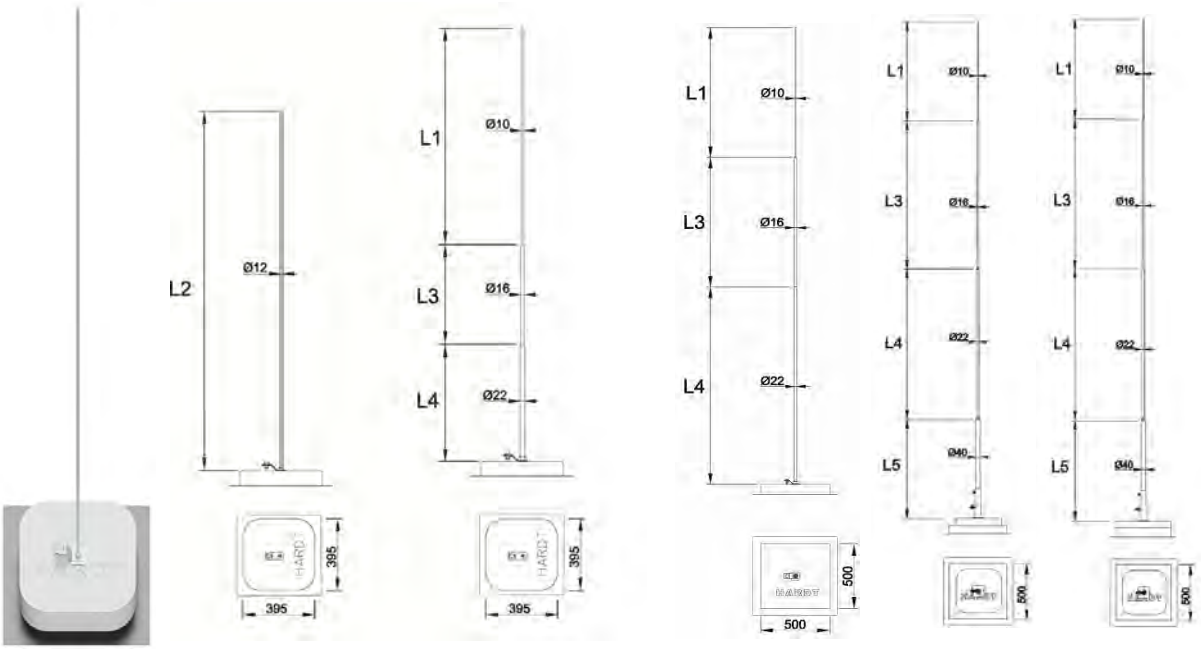
| catalog No. | cables | material |
|---|---|---|
| AHSWPG1 | 10x 4-35mm²<br>1x 30x4mm | Mo<br>steel galvanized |

# AIR TERMINATION SYSTEM

they are used to protect devices and metal roof elements by absorbing direct lightning current and discharging it into the grid of terminals

## FREE-STANDING VERTICAL AIR TERMINALS

Free-standing vertical air terminal

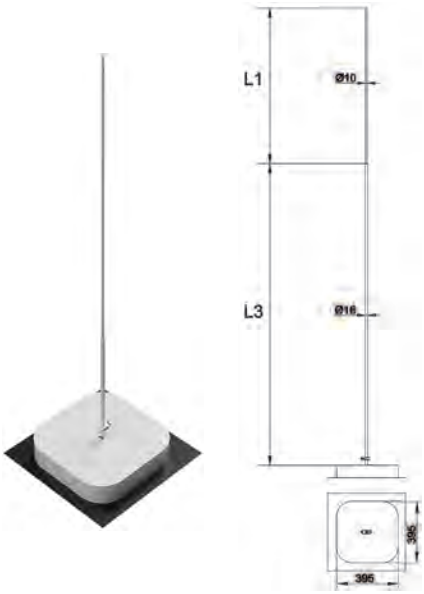



| catalog No. | height [mm] | vertical air terminal components | | | | | concrete [pc] | material | weight [kg] | wind zone |
|---|---|---|---|---|---|---|---|---|---|---|
| | | L1 (Ø10) [mm] | L2 (Ø12) [mm] | L3 (Ø16) [mm] | L4 (Ø22) [mm] | L5 (Ø40) [mm] | | | | |
| **AH40001** | 1000 | - | 1000 | - | - | - | 1x24 | Al (spire) steel galvanized weight concrete rug made of rubber | 24,4 | I,II,III |
| **AH40011** | 1500 | - | 1500 | - | - | - | | | 24,6 | |
| **AH40021** | 2000 | - | 2000 | - | - | - | | | 24,8 | |
| **AH40031** | 2500 | 1000 | - | 1000 | 500 | - | | | 25,3 | |
| **AH40041** | 3000 | 1000 | - | 1000 | 1000 | - | | | 25,8 | |
| **AH40271** | 3500 | 1000 | - | 1000 | 1500 | - | 1x42 | | 44,3 | |
| **AH40281** | 4000 | 1000 | - | 1000 | 2000 | - | | | 44,8 | |
| **AH070001AL** | 4500 | 1000 | - | 1500 | 1500 | 500 | | | 53 | |
| **AH070002AL** | 5000 | 1000 | - | 1500 | 1500 | 1000 | 1x42 1x24 | | 78 | |
| **AH070003AL** | 5500 | 1000 | - | 1500 | 1500 | 1500 | 2x42 | | 97 | |
| **AH40003** | 1000 | - | 1000 | - | - | - | 1x24 | INOX weight concrete rug made of rubber | 24,9 | I,II,III |
| **AH40013** | 1500 | - | 1500 | - | - | - | | | 25,4 | |
| **AH40023** | 2000 | - | 2000 | - | - | - | | | 25,8 | |
| **AH40033** | 2500 | 1000 | - | 1000 | 500 | - | | | 27,7 | |
| **AH40043** | 3000 | 1000 | - | 1000 | 1000 | - | | | 29,2 | |
| **AH40273** | 3500 | 1000 | - | 1000 | 1500 | - | 1x42 | | 48,7 | |
| **AH40283** | 4000 | 1000 | - | 1000 | 2000 | - | | | 50,2 | |

## Free-standing vertical air terminal, wedge - **NEW!**

| catalog No. | height [mm] | vertical air terminal components | | material | wind zone |
|---|---|---|---|---|---|
| | | L1 (Ø10) [mm] | L3 (Ø16) [mm] | | |
| **AH070004AL** | 1000 | - | 1000 | aluminum<br>steel galvanized<br>weight concrete<br>rug made of rubber | I,II,III |
| **AH070005AL** | 1500 | 1000 | 500 | | |
| **AH070006AL** | 2000 | 1000 | 1000 | | |
| **AH070007AL** | 2500 | 1000 | 1500 | | |
| **AH070008AL** | 3000 | 1000 | 2000 | | |

* installation using a wedge for the weight



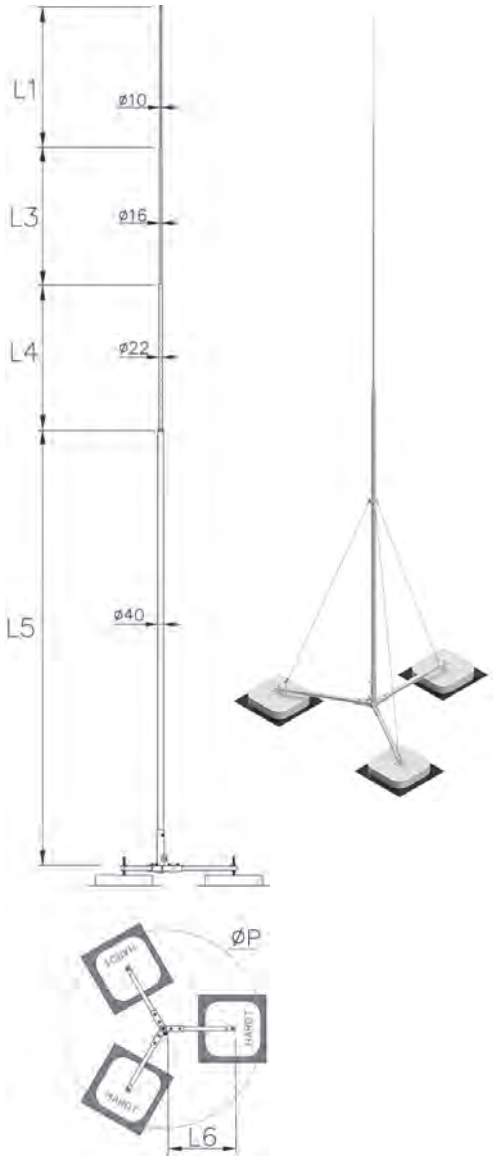

## Free-standing vertical air terminal on a small tripod



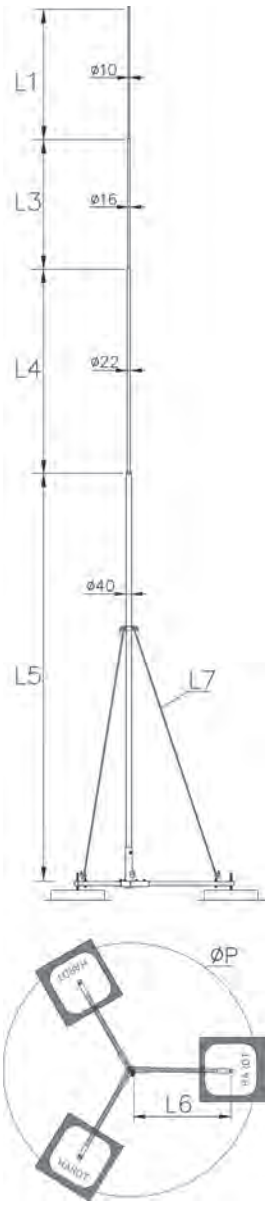



| catalog No. | height [mm] | vertical air terminal components | | | | ØP [mm] | concrete weight [pc] | material | weight [kg] | wind zone |
|---|---|---|---|---|---|---|---|---|---|---|
| | | L1 (Ø10) [mm] | L3 (Ø16) [mm] | L4 (Ø22) [mm] | L6 (leg) [mm] | | | | | |
| **AH40741** | 2500 | 1000 | 1000 | 500 | 300 | 1040 | 3x24 | Al (spire)<br>galvanized steel<br>weight concrete<br>rug made of rubber | 75,8 | I,II,III |
| **AH40751** | 3000 | 1000 | 1000 | 1000 | | | | | 76,3 | |
| **AH40761** | 3500 | 1000 | 1000 | 1500 | | | | | 76,8 | |
| **AH40771** | 4000 | 1000 | 1000 | 2000 | | | | | 77,3 | |
| **AH40743** | 2500 | 1000 | 1000 | 500 | 300 | 1040 | | INOX<br>weight concrete<br>rug made of rubber | 78,2 | I,II,III |
| **AH40753** | 3000 | 1000 | 1000 | 1000 | | | | | 79,7 | |
| **AH40763** | 3500 | 1000 | 1000 | 1500 | | | | | 81,2 | |
| **AH40773** | 4000 | 1000 | 1000 | 2000 | | | | | 82,7 | |

## Free-standing vertical air terminal on a tripod






| catalog No. | height [mm] | vertical air terminal components | | | | | | ØP [mm] | concrete weight [pc/kg] | material | weight [kg] | wind zone |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | L1 (Ø10) [mm] | L3 (Ø16) [mm] | L4 (Ø22) [mm] | L5 (Ø40) [mm] | L6 (noga) [mm] | L7(brace) Ø10 [mm] | | | | | |
| **AH40081** | 4500 | 1000 | 1500 | 1500 | 500 | 500 | - | 1430 | 3x24 | aluminium (iglica, rura wsporcza)<br>stal ocynkowana<br>obciążnik betonowy<br>dywanik gumowy | 83,2 | I,II,III |
| **AH40091** | 5000 | 1000 | 1500 | 1500 | 1000 | 500 | - | | | | 86,0 | |
| **AH40101** | 5500 | 1000 | 1500 | 1500 | 1500 | 500 | - | | | | 86,5 | |
| **AH40111** | 6000 | 1000 | 1000 | 2000 | 2000 | 500 | - | | | | 87 | |
| **AH40121** | 6500 | 1000 | 1000 | 1500 | 3000 | 750 | 2000 | 1930 | | | 95,8 | |
| **AH40131** | 7000 | 1000 | 1000 | 2000 | 3000 | 750 | 2000 | | | | 96,3 | |
| **AH40401** | 8000 | 1000 | 1000 | 2000 | 4000 | 1000 | 3000 | 2400 | | | 103 | I |

## Free-standing vertical air terminal with four-legged suppor





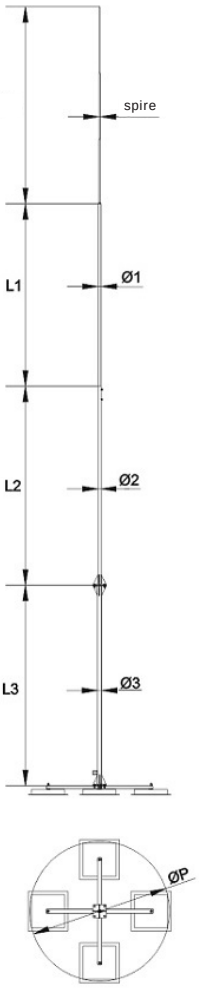




| catalog No. | height [mm] | vertical air terminal components | | | | | | | ØP [mm] | concrete weight [pc] | material | weight [kg] | wind zone |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | L1 Ø10 [mm] | L3 Ø16 [mm] | L4 Ø22 [mm] | L5 Ø40 [mm] | L6 (leg) [mm] | L7 (brace) Ø10 [mm] | L8 (quadripod) [mm] | | | | | |
| **AH40141** | 8000 | 1000 | 1000 | 2000 | 4000 | 750 | 3000 | - | 1930 | 4x24 | Al (spire, support tube) steel galvanized weight concrete rug made of rubber | 125,5 | I,II,III |
| **AH40151** | 9000 | 1000 | 1000 | 2000 | 4000 | 1000 | 3000 | 2000 | 2400 | 8x24 | | 230,7 | |
| **AH40161** | 10000 | 1000 | 1000 | 2000 | 4000 | 1000 | 3000 | 3000 | | | | 236,8 | |
| **AH40411** | 9000 | 1000 | 1000 | 2000 | 4000 | 1000 | 3000 | 2000 | | 4x24 | | 134,7 | I |
| **AH40421** | 10000 | 1000 | 1000 | 2000 | 4000 | 1000 | 3000 | 3000 | | | | 140,8 | |

## Free-standing vertical air terminal with four-legged suppor



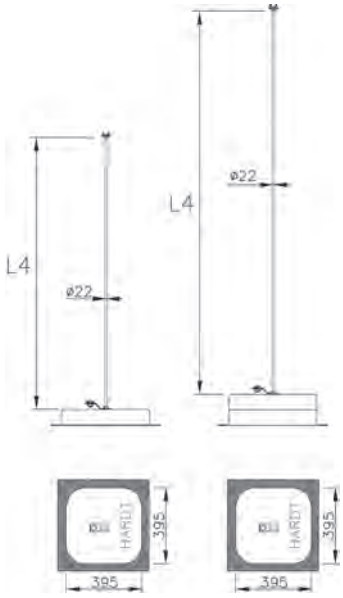



| catalog No. | height [mm] | vertical air terminal components | | | | | concrete weight [pc] | material | weight [kg] | wind zone |
|---|---|---|---|---|---|---|---|---|---|---|
| | | pipe segment L4 [mm] | pipe segment L3 [mm] | pipe segment L2 [mm] | pipe segmentL1 [mm] | spire [mm] | | | | |
| **AH070001OGAL** | 12000 | - | 3000 | 3000 | 3000 | 3000 | 5x24 | steel galvanized<br>weight concrete<br>rug made of rubber | 285 | I,II,III |

# FREE-STANDING VERTICAL AIR TERMINALS FOR ELEVATED TERMINALS

## Free-standing vertical air terminal for elevated terminals



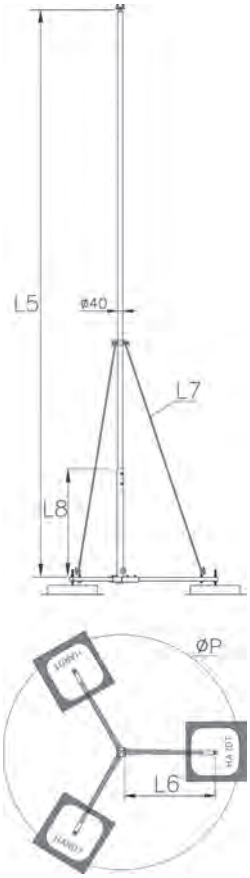



| catalog No. | height [mm] | vertical air terminal components | concrete weight [pc] | material | weight [kg] | wind zone |
|---|---|---|---|---|---|---|
| | | L4 (Ø22) [mm] | | | | |
| **AH40201** | 1000 | 1000 | 1x24 | Al (spire) galvanized steel weight concrete rug made of rubber | 25 | I,II,III |
| **AH40211** | 1500 | 1500 | 2x24 | | 49,5 | |

## Free-standing vertical air terminal on a tripod for elevated terminals



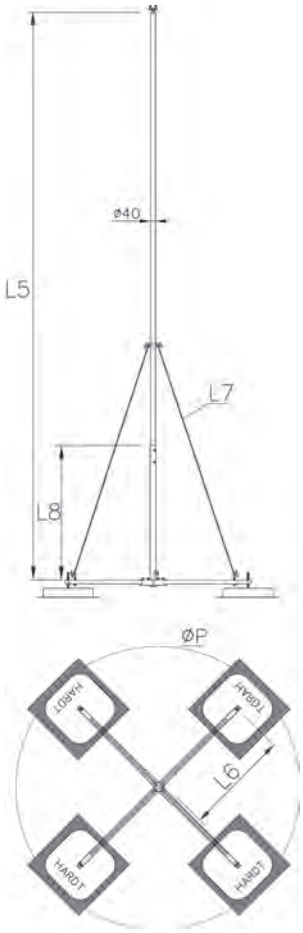


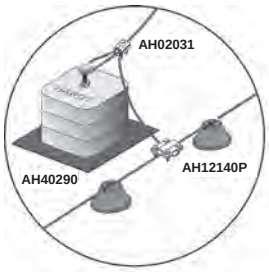

| catalog No. | height [mm] | vertical air terminal components | | | | ØP [mm] | concrete weight [pc] | material | weight [kg] | wind zone |
|---|---|---|---|---|---|---|---|---|---|---|
| | | L5 (Ø40) [mm] | L6 (leg) [mm] | L7(brace) Ø10 [mm] | L8 (tripod) [mm] | | | | | |
| **AH40221** | 2000 | 2000 | 500 | - | - | 1430 | 3x24 | Al (spire, support tube) galvanized steel weight concrete rug made of rubber | 80 | I,II,III |
| **AH40231** | 3000 | 3000 | 750 | 2000 | - | 1930 | | | 87,5 | |
| **AH40241** | 4000 | 4000 | | 2000 | - | | | | 89 | |
| **AH40251** | 5000 | 4000 | | 3000 | 2000 | | | | 99,9 | |

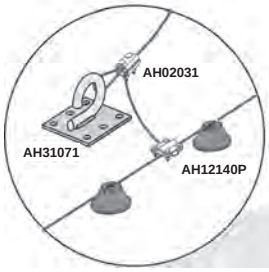
## Free-standing vertical air terminal with four-legged support for elevated terminals



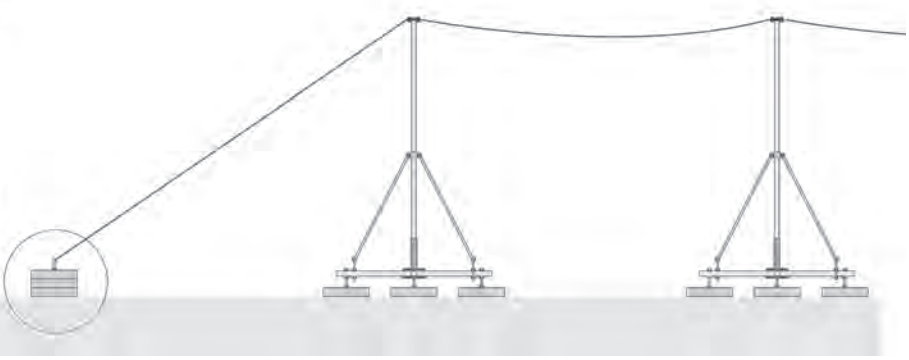



| catalog No. | height [mm] | vertical air terminal components | | | | ØP [mm] | concrete weight [pc] | material | weight [kg] | wind zone |
|---|---|---|---|---|---|---|---|---|---|---|
| | | L5 (Ø40) [mm] | L6 (leg) [mm] | L7 (brace) Ø10 [mm] | L8 (quadripod) [mm] | | | | | |
| **AH40261** | 6000 | 4000 | 750 | 2000 | 3000 | 1930 | 4x24 | Al (spire, support tube) galvanized steel weight concrete rug made of rubber | 131,8 | I,II,III |
| **AH42271** | 7000 | 4000 | 1000 | 4000 | 4000 | 2400 | | | 137,8 | |




*In order to reduce the load on the vertical air terminals and stiffen the masts for elevated terminals you can apply::
- stay attached to the weight **(AH40290)**
- hook handle **(AH31071)** screwed to the roof, attic or structural elements.
The stay should be connected to the nearest terminal system.

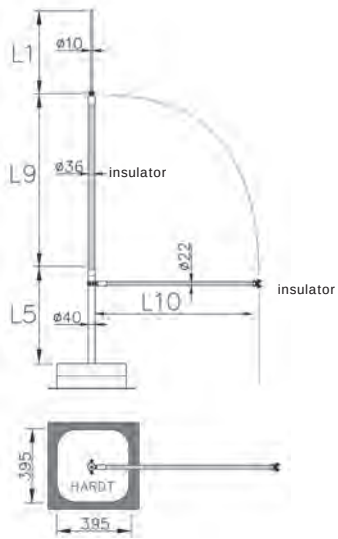




## INSULATED FREE-STANDING VERTICAL AIR TERMINALS

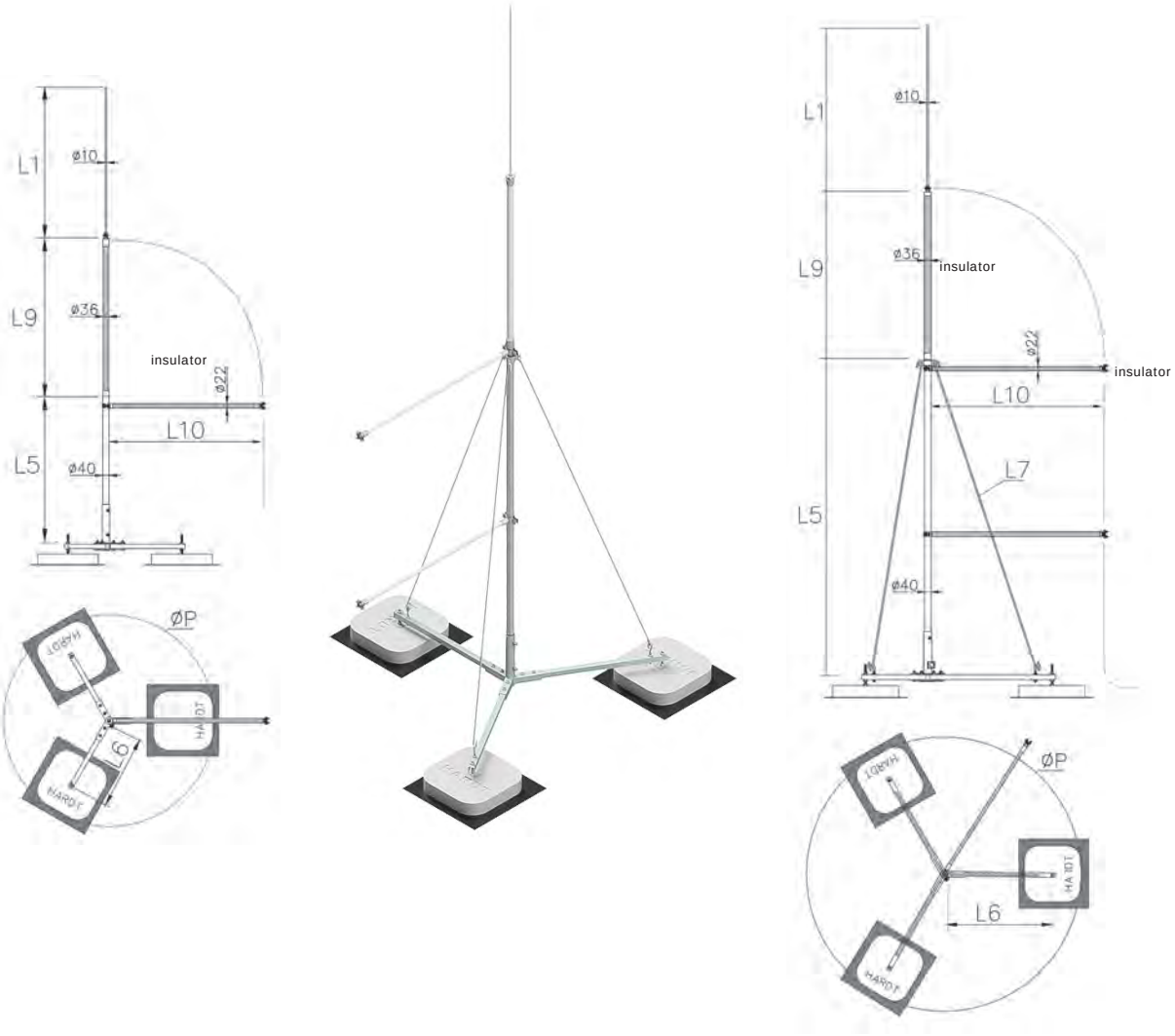
Insulated free-standing vertical air terminal






| catalog No. | height [mm] | vertical air terminal components | | | | concrete weight [pc] | material | weight [kg] | wind zone |
|---|---|---|---|---|---|---|---|---|---|
| | | L1 (Ø10) [mm] | L5 (Ø40) [mm] | L9 insulator (Ø36) [mm] | L10 insulator (Ø22) [mm] | | | | |
| **AH40431** | 2000 | 500 | 500 | 1000 | 1000 | 2x24 | Al (spire, support tube)<br>galvanized steel fiberglass (insulator)<br>concrete weight<br>rubber rug | 52,3 | I,II,III |

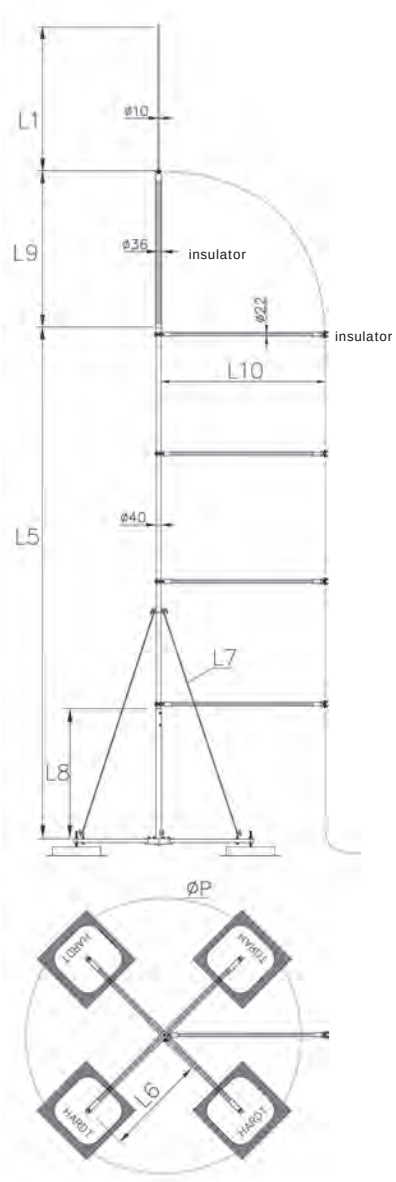
## Insulated free-standing vertical air terminal on a tripod




| catalog No. | height [mm] | vertical air terminal components | | | | | | ØP [mm] | concrete weight [pc] | material | weight [kg] | wind zone |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | L1 (Ø10) [mm] | L5 (Ø40) [mm] | L6 (leg) [mm] | L7 (brace) Ø10 [mm] | L9 insulator(Ø36) [mm] | L10 insulator(Ø22) [mm] | | | | | |
| **AH40441** | 3000 | 1000 | 1000 | 500 | - | 1000 | 1000 | 1430 | 3x24 | Al (spire, support tube) | 82,3 | I,II,III |
| **AH40451** | 4000 | 1000 | 2000 | 750 | 2000 | 1000 | 1000 (2 pcs) | 1930 | | galvanized steel<br>fiberglass (insulator) | 90,8 | |
| **AH40461** | 5000 | 1000 | 3000 | 750 | 2000 | 1000 | 1000 (3 pcs) | | | weight concrete | 93,8 | |
| **AH40291** | 6000 | 1000 | 4000 | 750 | 2000 | 1000 | 1000 (4 pcs) | | | rug made of rubber | 95,8 | I |

## Insulated free-standing vertical air terminal with four-legged support



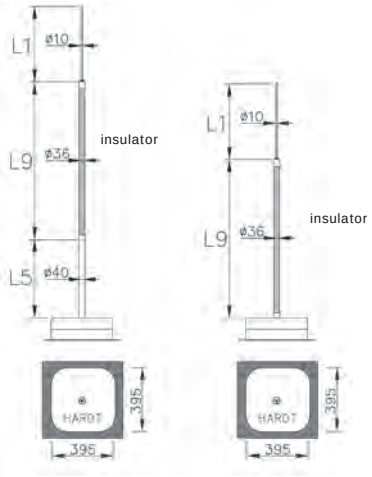



| no. catalog | height [mm] | vertical air terminal components | | | | | | | ØP [mm] | concrete weight [pc] | material | weight [kg] | wind zone |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | L1 (Ø10) [mm] | L5 (Ø40) [mm] | L6 (leg) [mm] | L7 (brace)Ø10 [mm] | L8 (quadri-pod) [mm] | L9 insulator Ø36 [mm] | L10 insulator Ø22 [mm] | | | | | |
| **AH40471** | 6000 | 1000 | 4000 | 750 | 2000 | - | 1000 | 1000 (4 pcs) | 1930 | 4x24 | Al (spire, support tube)<br>galvanized steel<br>fiberglass (insulator)<br>weight concrete<br>rug made of rubber | 120,8 | I,II,III |
| **AH40481** | 7000 | 1000 | 4000 | 750 | 2000 | 2000 | 1000 | 1000 (5 pcs) | | | | 130,8 | |
| **AH40491** | 8000 | 1000 | 4000 | 750 | 3000 | 3000 | 1000 | 1000 (6 pcs) | | | | 137,8 | |

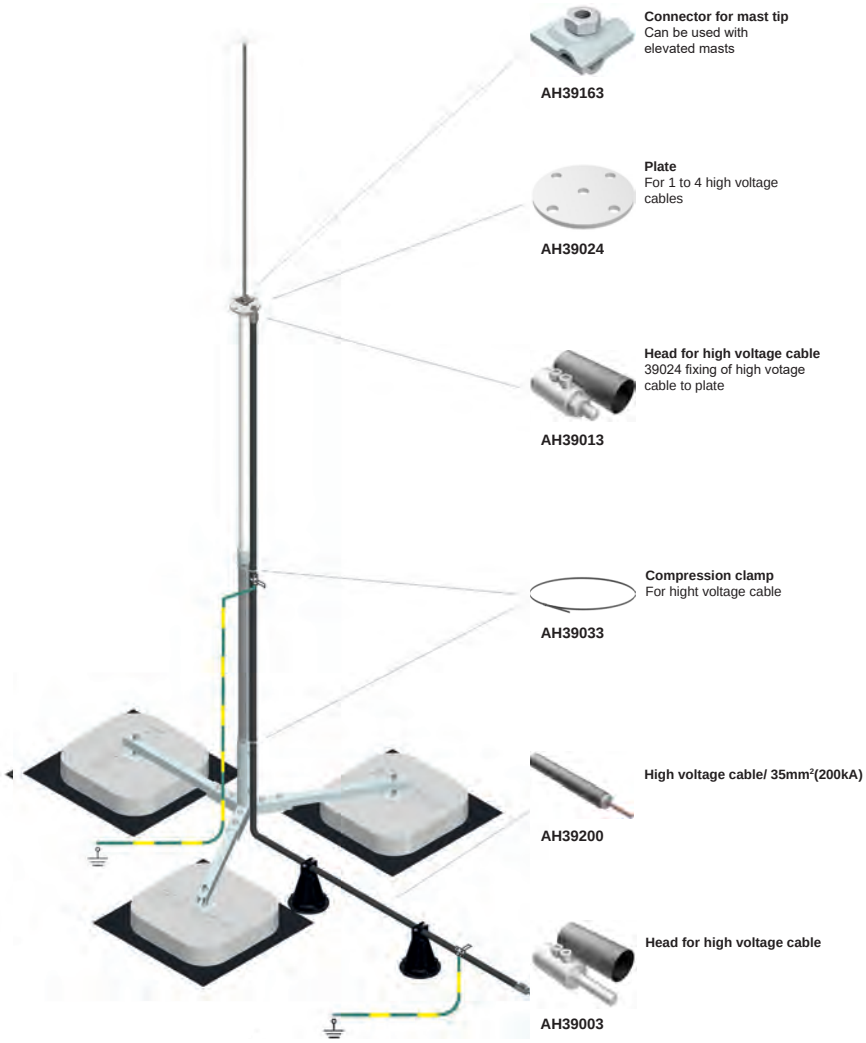
# FREE-STANDING VERTICAL AIR TERMINALS INSULATED FOR HIGH-VOLTAGE CABLE

## Insulated free-standing vertical air terminal for high-voltage cable






| catalog No. | height [mm] | vertical air terminal components | | | concrete weight [pc] | material | weight [kg] | wind zone |
|---|---|---|---|---|---|---|---|---|
| | | L1 (Ø10) [mm] | L5 (Ø40) [mm] | L9 insulator (Ø36) [mm] | | | | |
| **AH40501** | 1500 | 500 | - | 1000 | 2 | Al (spire, support tube) galvanized steel fiberglass (insulator) concrete weight rubber rug | 49,5 | I,II,III |
| **AH40511** | 2000 | 500 | 500 | 1000 | | | 50,3 | |



**Connector for mast tip**
Can be used with elevated masts
**AH39163**

**Plate**
For 1 to 4 high voltage cables
**AH39024**

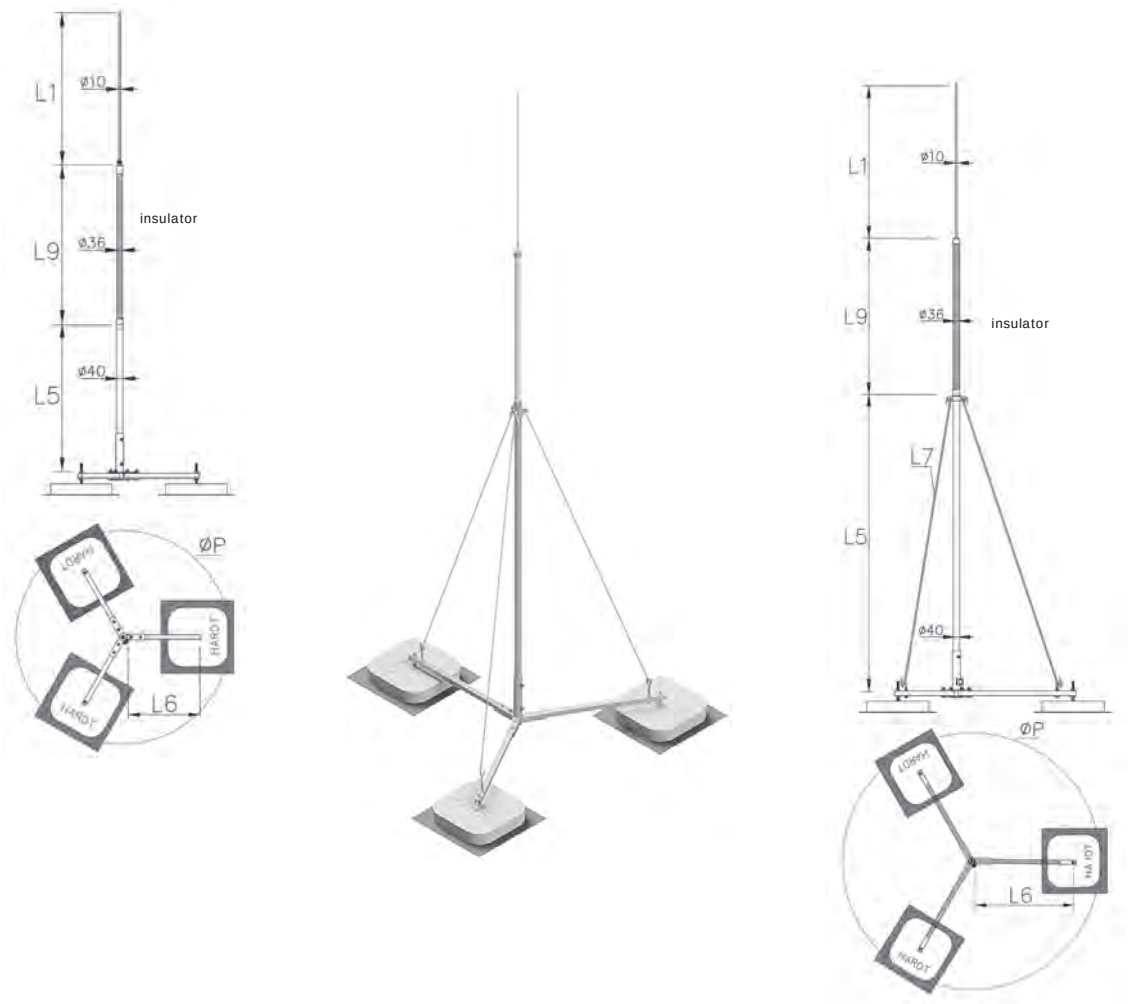
**Head for high voltage cable**
39024 fixing of high votage cable to plate
**AH39013**

**Compression clamp**
For hight voltage cable
**AH39033**

**High voltage cable/ 35mm²(200kA)**
**AH39200**

**Head for high voltage cable**
**AH39003**

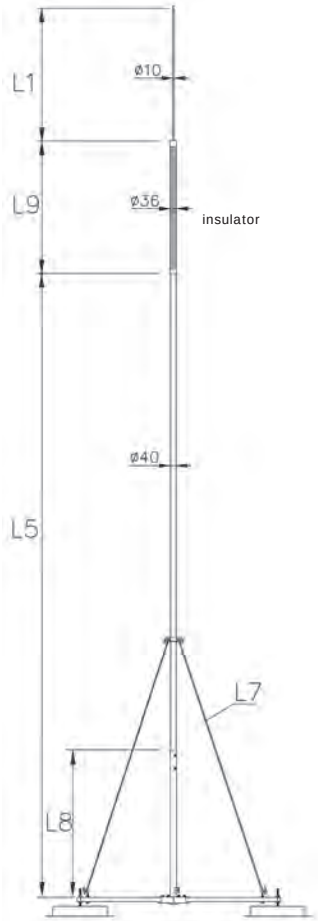
## Free-standing vertical air terminal insulated for high voltage cable on a tripod

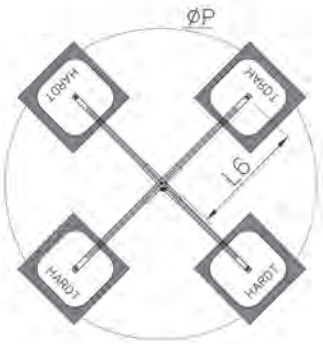



| catalog No. | height [mm] | vertical air terminal components | | | | | ØP [mm] | concrete weight [pc] | material | weight [kg] | wind zone |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | L1 (Ø10) [mm] | L5 (Ø40) [mm] | L6 (leg) [mm] | L7 (brace) Ø10 [mm] | L9 insulator (Ø36) [mm] | | | | | |
| **AH40521** | 2000 | 500 | 500 | 500 | - | 1000 | 1430 | 3x24 | Al (spire, support tube)<br>galvanized steel<br>fiberglass (insulator)<br>weight concrete<br>rug made of rubber | 78,3 | I,II,III |
| **AH40531** | 3000 | 1000 | 1000 | 500 | - | 1000 | | | | 79,5 | |
| **AH40541** | 4000 | 1000 | 2000 | 750 | 2000 | 1000 | 1930 | | | 86,7 | |
| **AH40551** | 5000 | 1000 | 3000 | 750 | 2000 | 1000 | | | | 88,2 | |

## Insulated free-standing vertical air terminal with four-legged support for high-voltage cable



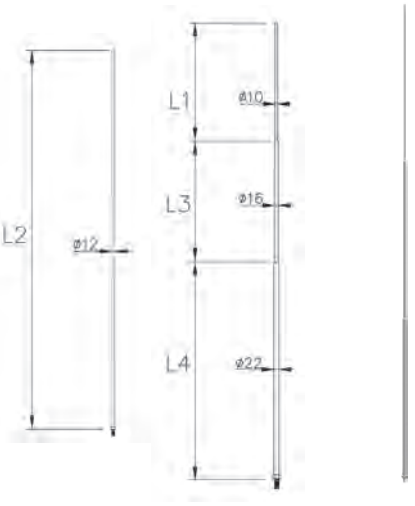



| catalog No. | height [mm] | vertical air terminal components | | | | | | ØP [mm] | concrete weight [pc] | material | weight [kg] | wind zone |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | L1 (Ø10) [mm] | L5 (Ø40) [mm] | L6 (leg) [mm] | L7 (brace) Ø10 [mm] | L8 (quadripod) [mm] | L9 insulator(Ø36) [mm] | | | | | |
| **AH40561** | 6000 | 1000 | 4000 | 750 | 3000 | - | 1000 | 1930 | 4x24 | Al (spire, support tube) galvanized steel fiberglass (insulator) weight concrete rug made of rubber | 118,2 | I,II,III |
| **AH40571** | 7000 | 1000 | 4000 | 750 | 3000 | 2000 | 1000 | | | | 125,2 | |
| **AH40581** | 8000 | 1000 | 4000 | 1000 | 3000 | 3000 | 1000 | 2400 | | | 134,7 | |

# WALL/STRUCTURE-MOUNTED VERTICAL AIR TERMINALS

## Wall/structure-mounted vertical air terminal










*suggested fixings:


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*When installing the vertical air terminals on a sloping roof, we recommend using adjustment screws:
**AH40171** (thread M12) for vertical air terminals from 1000 to 2000mm
**AH40181** (thread M20) for vertical air terminals from 2500 to 4000mm

| catalog No. | height [mm] | vertical air terminal components | | | | | material | weight [kg] | wind zone |
|---|---|---|---|---|---|---|---|---|---|
| | | L1 (Ø10) [mm] | L2 (Ø12) [mm] | L3 (Ø16) [mm] | L4 (Ø22) [mm] | thread | | | |
| AH40811 | 1000 | - | 1000 | - | - | M12 | Al (spire) | 0,3 | I,II,III |
| AH40821 | 1500 | - | 1500 | - | - | | | 0,5 | |
| AH40831 | 2000 | - | 2000 | - | - | | | 0,7 | |
| AH40841 | 2500 | 1000 | - | 1000 | 500 | M20 | steel electro galva-nized | 1,3 | |
| AH40851 | 3000 | 1000 | - | 1000 | 1000 | | | 1,8 | |
| AH40861 | 3500 | 1000 | - | 1000 | 1500 | | | 2,3 | |
| AH40871 | 4000 | 1000 | - | 1000 | 2000 | | | 2,8 | |







*suggested fixings:


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| catalog No. | height [mm] | vertical air terminal components | | | | | material | weight [kg] | wind zone |
|---|---|---|---|---|---|---|---|---|---|
| | | L1 (Ø10) [mm] | L3 (Ø16) [mm] | L4 (Ø22) [mm] | L5 (Ø40) [mm] | L11 (Ø48) [mm] | | | |
| AH40881 | 4000 | 1000 | 1000 | 1000 | 1000 | - | Al (spire, sup-port tube) | 3,3 | I,II,III |
| AH40891 | 4500 | 1000 | 1000 | 1500 | 1000 | - | | 3,8 | |
| AH40901 | 5000 | 1000 | 1000 | 2000 | 1000 | - | steel electro galva-nized | 4,3 | |
| AH40911 | 6000 | 1000 | 1000 | 2000 | 2000 | - | | 5,8 | |
| AH40921 | 7000 | 1000 | 1000 | 2000 | 3000 | - | hot-dip gal-vanized steel (support pipe Ø48) | 7,3 | |
| AH40931 | 8000 | 1000 | 1000 | 2000 | 4000 | - | | 8,8 | I,II |
| AH40941 | 9000 | 1000 | 1000 | 2000 | 4000 | 2000 | | 16,2 | |

# Wall/structure-mounted vertical air terminal for elevated terminals

*suggested fixings:


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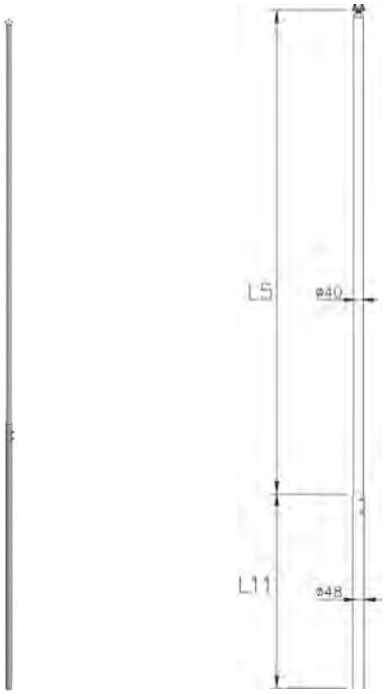

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p. 79


p. 80


p. 80

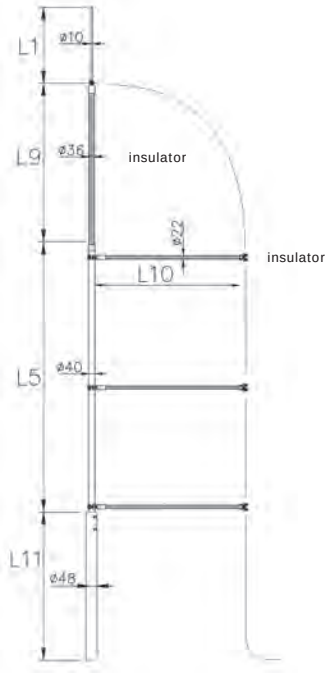



| catalog No. | height [mm] | vertical air terminal components | | material | weight [kg] | wind zone |
|---|---|---|---|---|---|---|
| | | L5 (Ø40) [mm] | L11 (Ø48) [mm] | | | |
| AH41001 | 500 | 500 | - | Al (spire, support tube) electro galvanized steel hot-dip galvanized steel (support pipe Ø48) | 1,1 | I,II,III |
| AH41011 | 1000 | 1000 | - | | 1,9 | |
| AH41021 | 2000 | 2000 | - | | 3,4 | |
| AH41031 | 3000 | 3000 | - | | 4,9 | |
| AH41041 | 4000 | 4000 | - | | 6,4 | |
| AH41051 | 5000 | 4000 | 2000 | | 13,5 | |
| AH41061 | 6000 | 4000 | 3000 | | 16,5 | |



## Wall/structure-mounted insulated vertical air terminal for elevated air terminals






*suggested fixings:




| catalog No. | height [mm] | vertical air terminal components | | | | | material | weight [kg] | wind zone |
|---|---|---|---|---|---|---|---|---|---|
| | | L1 (Ø10) [mm] | L5 (Ø40) [mm] | L9 insulator (Ø36) [mm] | L10 insulator (Ø22) [mm] | L11 (Ø48) [mm] | | | |
| **AH41101** | 2000 | 500 | 500 | 1000 | 1000 (1 pc) | - | Al (spire, support tube)<br>electro galvanized steel<br>hot-dip galvanized steel (support pipe Ø48)<br>fiberglass (insulator) | 3,95 | I,II,III |
| **AH41111** | 3000 | 1000 | 1000 | 1000 | 1000 (1 pc) | - | | 4,8 | |
| **AH41121** | 4000 | 1000 | 2000 | 1000 | 1000 (2 pcs) | - | | 7,3 | |
| **AH41131** | 5000 | 1000 | 3000 | 1000 | 1000 (3 pcs) | - | | 9,8 | |
| **AH41141** | 6000 | 1000 | 4000 | 1000 | 1000 (4 pcs) | - | | 12,3 | |
| **AH41151** | 7000 | 1000 | 4000 | 1000 | 1000 (5 pcs) | 2000 | | 20,4 | |
| **AH41161** | 8000 | 1000 | 4000 | 1000 | 1000 (6 pcs) | 3000 | | 23,5 | |

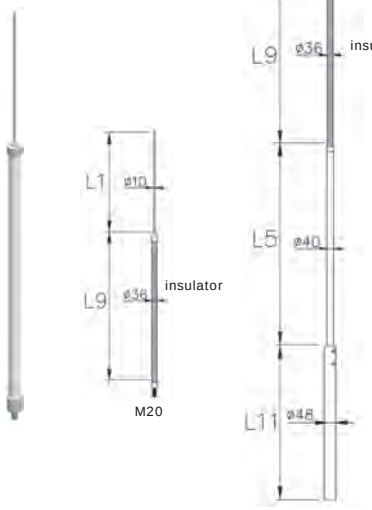
## Wall/structure-mounted insulated vertical air terminal for high-voltage cable

*suggested fixings:



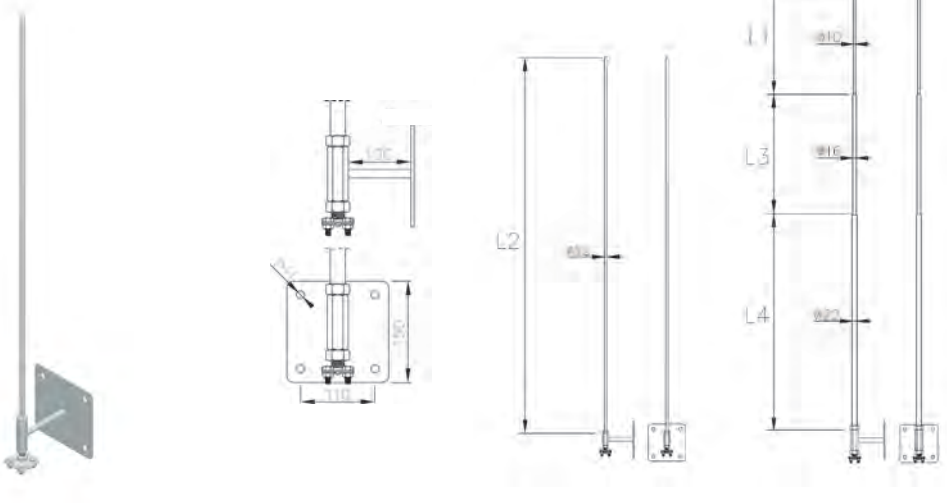
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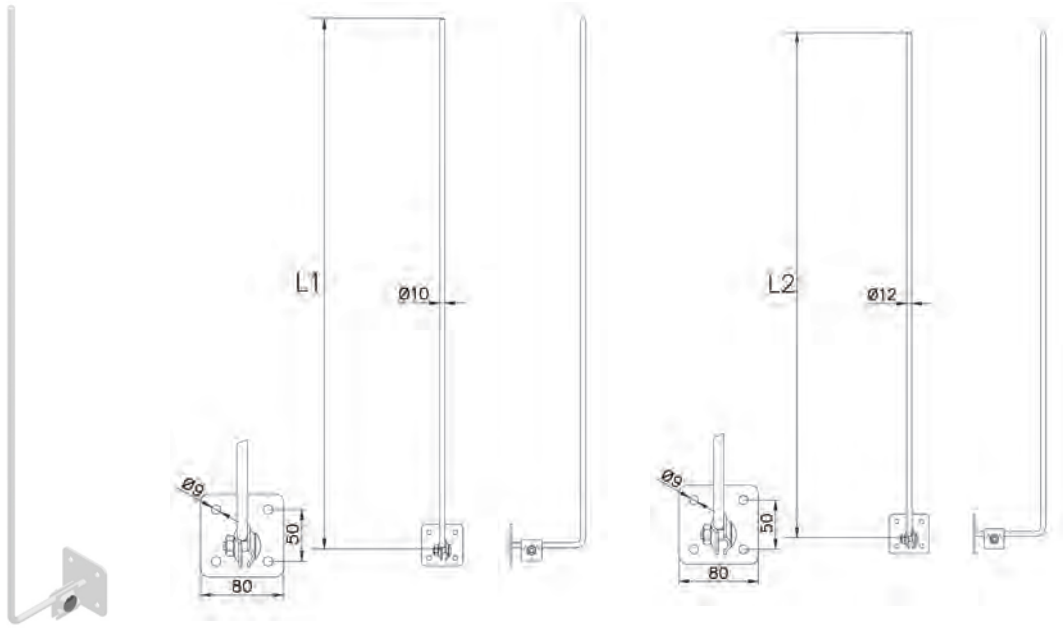

| catalog No. | height [mm] | vertical air terminal components | | | | material | weight [kg] | wind zone |
|---|---|---|---|---|---|---|---|---|
| | | L1 (Ø10) [mm] | L5 (Ø40) [mm] | L9 insulator(Ø36) [mm] | L11 (Ø48) [mm] | | | |
| **AH40601** | 1500 | 500 | - | 1000 | - | Al (spire, support tube) hot-dip galvanized steel (support pipe Ø48) fiberglass (insulator) | 2,1 | I,II,III |
| **AH40611** | 2000 | 500 | 500 | 1000 | - | | 2,8 | |
| **AH40621** | 3000 | 1000 | 1000 | 1000 | - | | 3,7 | |
| **AH40631** | 4000 | 1000 | 2000 | 1000 | - | | 5,2 | |
| **AH40641** | 5000 | 1000 | 3000 | 1000 | - | | 6,7 | |
| **AH40651** | 6000 | 1000 | 4000 | 1000 | - | | 8,2 | |
| **AH40661** | 7000 | 1000 | 4000 | 1000 | 2000 | | 15,4 | |
| **AH40671** | 8000 | 1000 | 4000 | 1000 | 3000 | | 18,9 | |

## Chimney vertical air terminal

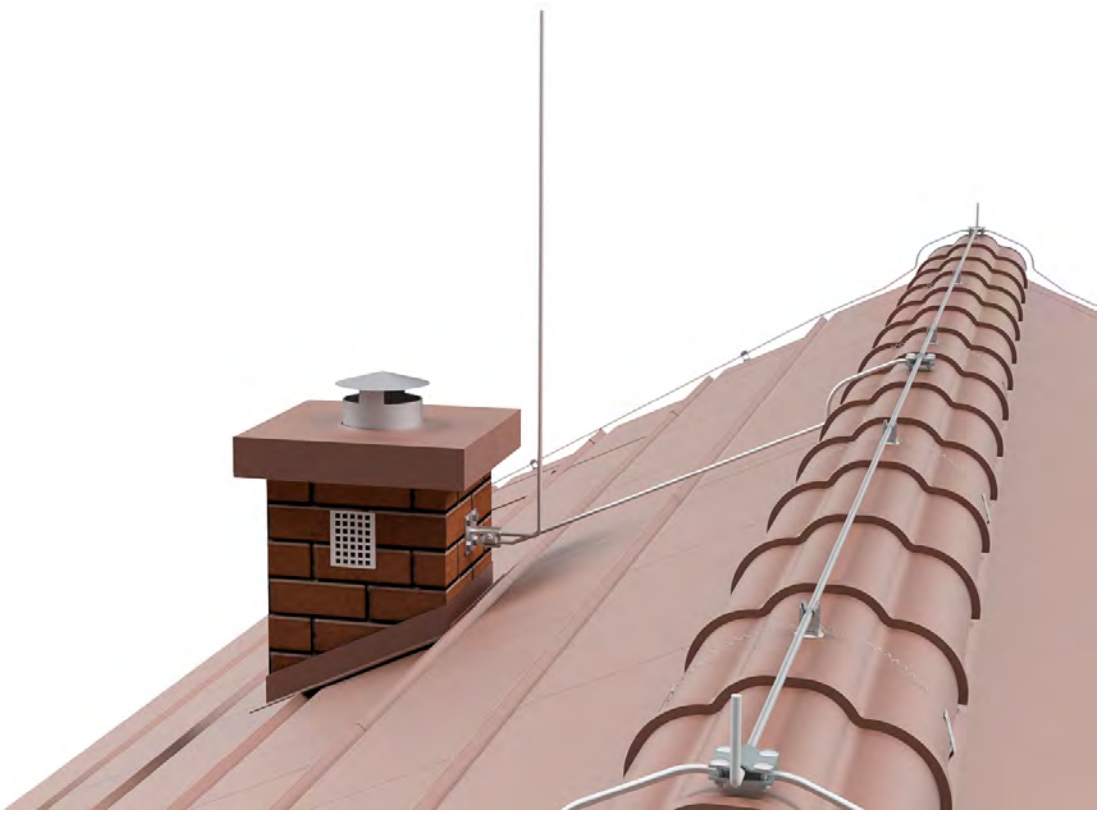



| catalog No. | height [mm] | vertical air terminal components | | | | | material | weight [kg] | wind zone |
|---|---|---|---|---|---|---|---|---|---|
| | | L1 (Ø10) [mm] | L2 (Ø12) [mm] | L3(Ø16) [mm] | L4 (Ø22) [mm] | sleeve | | | |
| **AH40301** | 1000 | - | 1000 | - | - | M12 | Al (spire) electro galvanized steel | 1.6 | I,II,III |
| **AH40311** | 1500 | - | 1500 | - | - | | | 1.8 | |
| **AH40321** | 2000 | - | 2000 | - | - | | | 2.1 | |
| **AH40331** | 2500 | 1000 | - | 1000 | 500 | M20 | | 2.4 | |
| **AH40341** | 3000 | 1000 | - | 1000 | 1000 | | | 2.8 | |
| **AH40351** | 3500 | 1000 | - | 1000 | 1500 | | | 3.1 | |

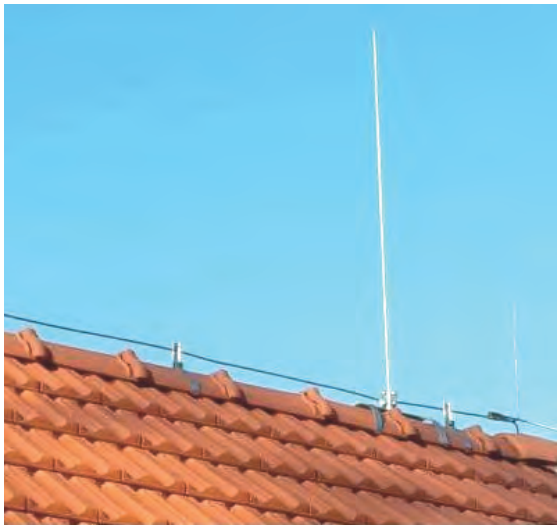
# Chimney vertical air terminal

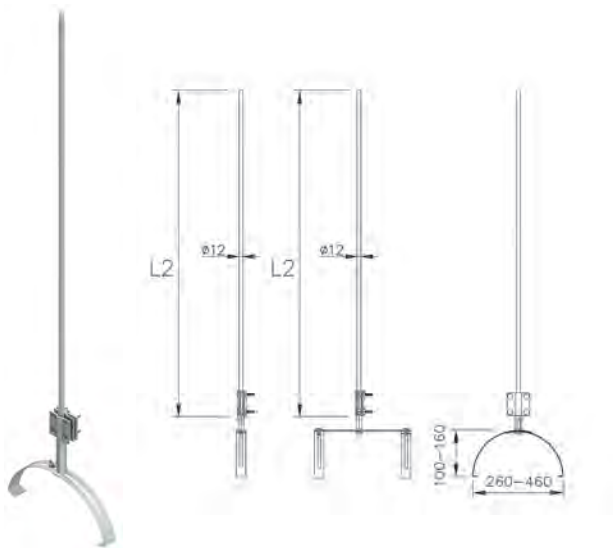



| catalog No. | height [mm] | vertical air terminal components | | material | weight [kg] | wind zone |
|---|---|---|---|---|---|---|
| | | L1 (Ø10) [mm] | L2 (Ø12) [mm] | | | |
| **AH40304** | 1000 | 1000 | - | Al | 0,3 | I,II,III |
| **AH40314** | 1500 | - | 1500 | | 0,6 | |
| **AH40324** | 2000 | - | 2000 | | 1,8 | |



## Ridge tile vertical air terminal

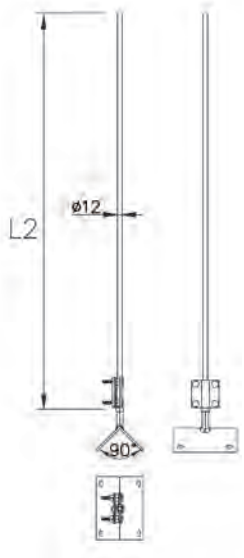





| catalog No. | height [mm] | vertical air terminal components L2 (Ø12) [mm] | number of ridge tiles | material | weight [kg] | wind zone |
|---|---|---|---|---|---|---|
| **AH41321** | 1000 | 1000 | 1 | Al (spire) | 0,8 | I,II,III |
| **AH41331** | 1000 | 1000 | 2 | steel electro galvanized | 1,6 | |
| **AH41341** | 1500 | 1500 | | | 1,8 | |

## Top vertical air terminal

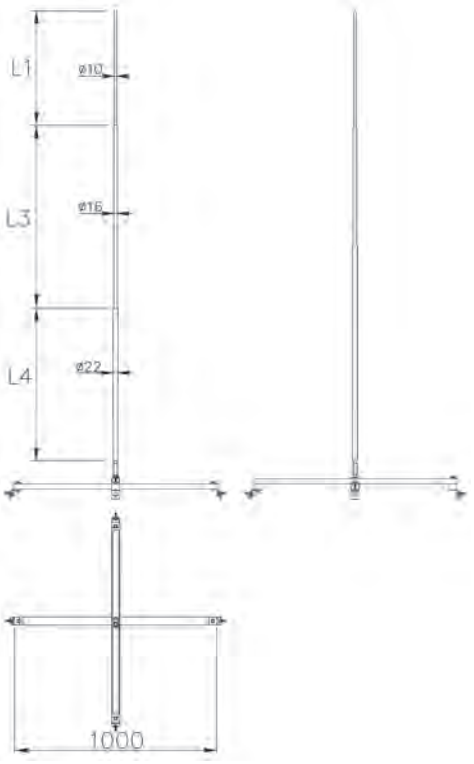





| catalog No. | height [mm] | vertical air terminal components L2 (Ø12) [mm] | material | weight [kg] | wind zone |
|---|---|---|---|---|---|
| **AH41301** | 1000 | 1000 | Al (spire) | 1,6 | I,II,III |
| **AH41311** | 1500 | 1500 | electro galvanized steel | 1,8 | |

## Vertical air terminal fixed to the double standing seam

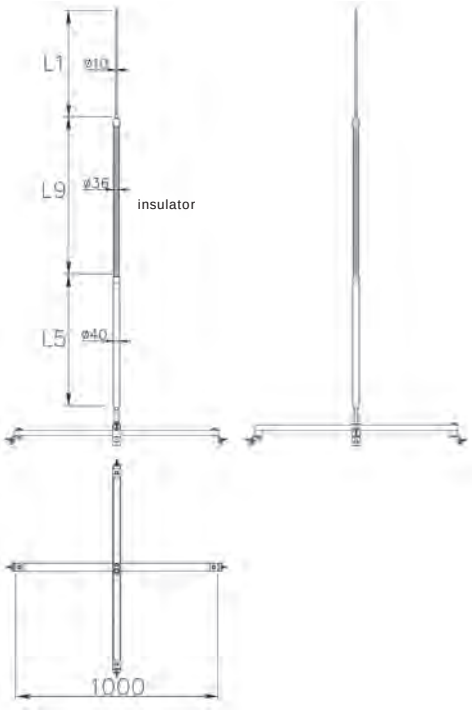





| catalog No. | height [mm] | vertical air terminal components | | | | material | weight [kg] | wind zone |
|---|---|---|---|---|---|---|---|---|
| | | L1 (Ø10) [mm] | L2 (Ø12) [mm] | L3(Ø16) [mm] | L4 (Ø22) [mm] | | | |
| **AH41201** | 1000 | - | 1000 | - | - | Al (spire) electro galva-nized steel | 3.7 | I,II,III |
| **AH41211** | 1500 | - | 1500 | - | - | | 3.9 | |
| **AH41221** | 2000 | - | 2000 | - | - | | 4.4 | |
| **AH41231** | 2500 | 1000 | - | 1000 | 500 | | 4.7 | |

## Insulated high-voltage cable vertical air terminal fixed to the double standing seam






| catalog No. | height [mm] | vertical air terminal components | | | material | weight [kg] | wind zone |
|---|---|---|---|---|---|---|---|
| | | L1 (Ø10) [mm] | L5 (Ø40) [mm] | L9 insulator(Ø36) [mm] | | | |
| **AH41241** | 1500 | 500 | - | 1000 | Al (spire, support tube) galvanized steel fiberglass (insulator) | 5,2 | I,II,III |
| **AH41251** | 2000 | 500 | 500 | 1000 | | 5,95 | |

# VERTICAL AIR TERMINALS ON CONCRETE FOUNDATION

Free-standing vertical air terminal on concrete foundation



**NEW VERTICAL AIR TERMINALS FOUNDATION – view them at en.ah.com.pl**




*** DISCONTINUED as of 1 April 2026**

| catalog No. | height [mm] | vertical air terminal components | | | | | foundation | material | weight [kg] | wind zone |
|---|---|---|---|---|---|---|---|---|---|---|
| | | pipe segment L4 [mm] | pipe segment L3 [mm] | pipe segment L2 [mm] | pipe segment L1 [mm] | spire [mm] | | | | |
| AH35011 | 6000 | - | - | - | 3500 | 2500 | 250x250x1000 mm, 100 kg | hot-dip galvanized steel (pipe segments, spire) electro galvanized steel concrete foundation | 118 | I,II,III |
| AH35021 | 7500 | - | - | - | 3500 | 4000 | | | 121 | |
| AH35031 | 9000 | - | - | - | 3500 | 5500 | | | 126 | |
| AH35041 | 10500 | - | - | - | 6000 | 4500 | | | 138 | |
| AH35051 | 12000 | - | - | - | 6000 | 6000 | | | 164 | |
| AH35061 | 13500 | - | - | 6000 | 1500 | 6000 | 350x350x1200 mm, 220 kg | | 291 | |
| AH35071 | 15000 | - | - | 6000 | 3000 | 6000 | | | 299 | |
| AH35081 | 16500 | - | - | 6000 | 6000 | 4500 | | | 366 | |
| AH35091 | 18000 | - | - | 6000 | 6000 | 6000 | 430x430x1600 mm, 335kg | | 487 | |
| AH35101 | 19500 | - | 6000 | 6000 | 1500 | 6000 | | | 580 | |
| AH35111 | 21000 | - | 6000 | 6000 | 3000 | 6000 | 470x470x2000mm, 780kg | | 1044 | |
| AH35121 | 22500 | - | 6000 | 4500 | 6000 | 6000 | | | 1061 | |
| AH35131 | 24000 | - | 6000 | 6000 | 6000 | 6000 | 600(900)x600(900) x1500mm, 1500kg | | 1840 | |
| AH35171 | 25000 | 6000 | 6000 | 6000 | 3000 | 4000 | | | 1945 | |
| AH35141 | 27000 | 6000 | 6000 | 6000 | 3000 | 6000 | | | 1948 | |

Free-standing vertical air terminal on concrete foundations for elevated terminals



## NEW VERTICAL AIR TERMINALS ON CONCRETE FOUNDATIONS FOR ELEVATED TERMINALS – view them at en.ah.com.pl

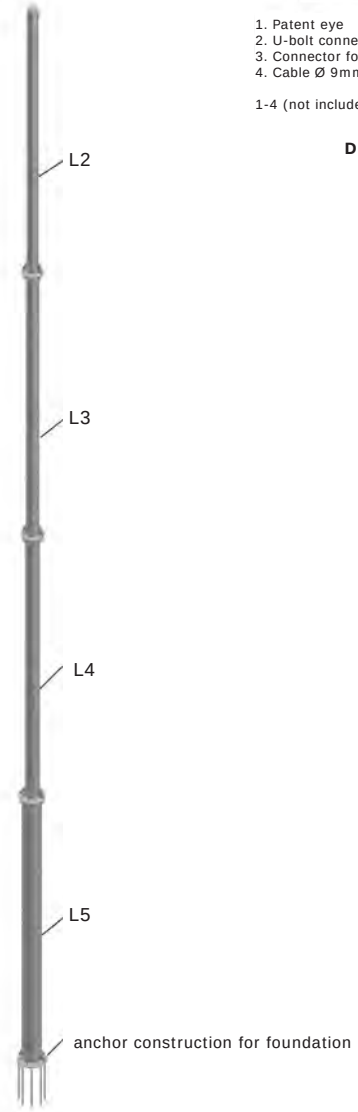


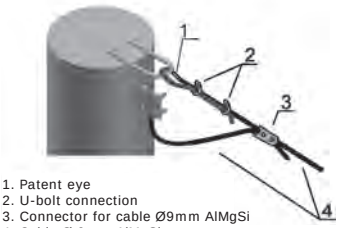



*** DISCONTINUED** as of 1 October 2026

| catalog No. | height [mm] | vertical air terminal components | | | | | foundation | material | weight [kg] | wind zone |
|---|---|---|---|---|---|---|---|---|---|---|
| | | pipe segment L4 [mm] | pipe segment L3 [mm] | pipe segment L2 [mm] | pipe segment L1 [mm] | connector | | | | |
| AH35201 | 3500 | - | - | - | 3500 | wire Ø8-10 mm tape up to 40 mm | 250x250x1000 mm, 100 kg | hot-dip galvanized steel (pipe segments) electro galvanized steel foundation concrete | 130 | I,II,III |
| AH35211 | 6000 | - | - | - | 6000 | | | | 166 | |
| AH35221 | 7500 | - | - | 6000 | 1500 | | 350x350x1200 mm, 220 kg | | 230 | |
| AH35231 | 9000 | - | - | 6000 | 3000 | | | | 267 | |
| AH35241 | 12000 | - | - | 6000 | 6000 | | 430x430x1600 mm, 335 kg | | 521 | |
| AH35251 | 13500 | - | 6000 | 6000 | 1500 | | | | 528 | |
| AH35261 | 15000 | - | 6000 | 6000 | 3000 | | 470x470x2000mm, 780 kg | | 1012 | |
| AH35271 | 16500 | - | 6000 | 4500 | 6000 | | | | 1030 | |
| AH35281 | 18000 | - | 6000 | 6000 | 6000 | | 600(900)x600(900) x1500mm, 1500kg | | 1904 | |
| AH35291 | 21000 | 6000 | 6000 | 6000 | 3000 | | | | 1921 | |

# Lightning protection vertical air terminal with anchor flange

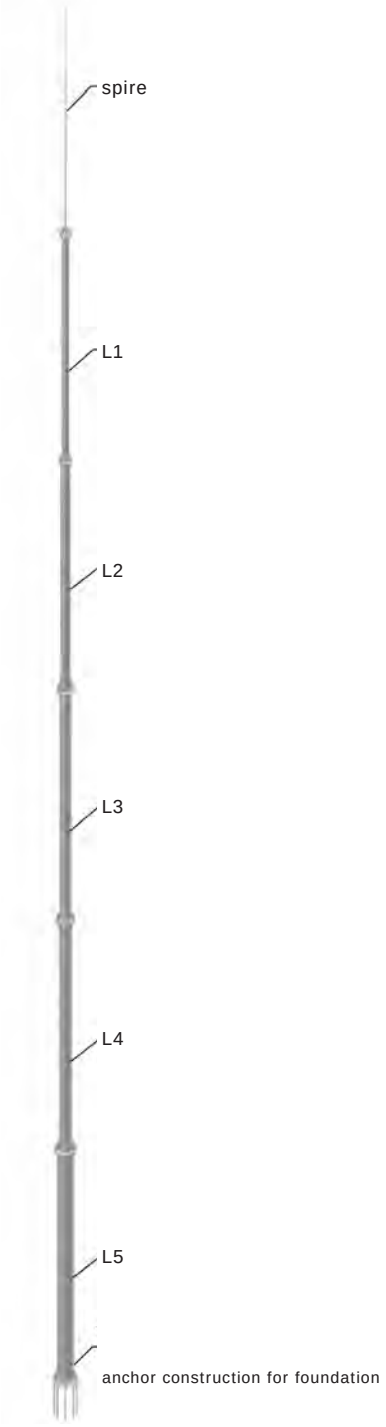



1. Patent eye
2. U-bolt connection
3. Connector for cable Ø9mm AlMgSi
4. Cable Ø 9mm AlMgSi

1-4 (not included)

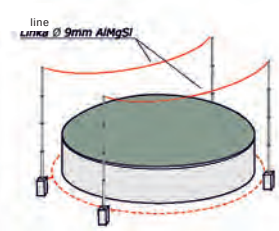
**Detail A**

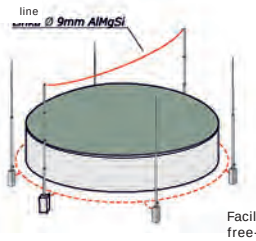



| catalog No. | height [mm] | vertical air terminal components | | | | | | material | weight [kg] | wind zone | Others |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | pipe segment L5 [mm] | pipe segment L4 [mm] | pipe segment L3 [mm] | pipe segment L2 [mm] | pipe segment L1 [mm] | spire [mm] | | | | |
| **AH070001W** | 24000 | 6000 | 6000 | 6000 | 6000 | - | - | hot-dip galvanized steel | 1130 | I,II,III | **for elevated terminals with a maximum spacing of 46m** |
| **AH070002W** | 36000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | | 1250 | | - |

* on request

The structure has been calculated to mount a single elevated terminal on two vertical air terminals. Example use of lightning protection vertical air terminal AH070001W.



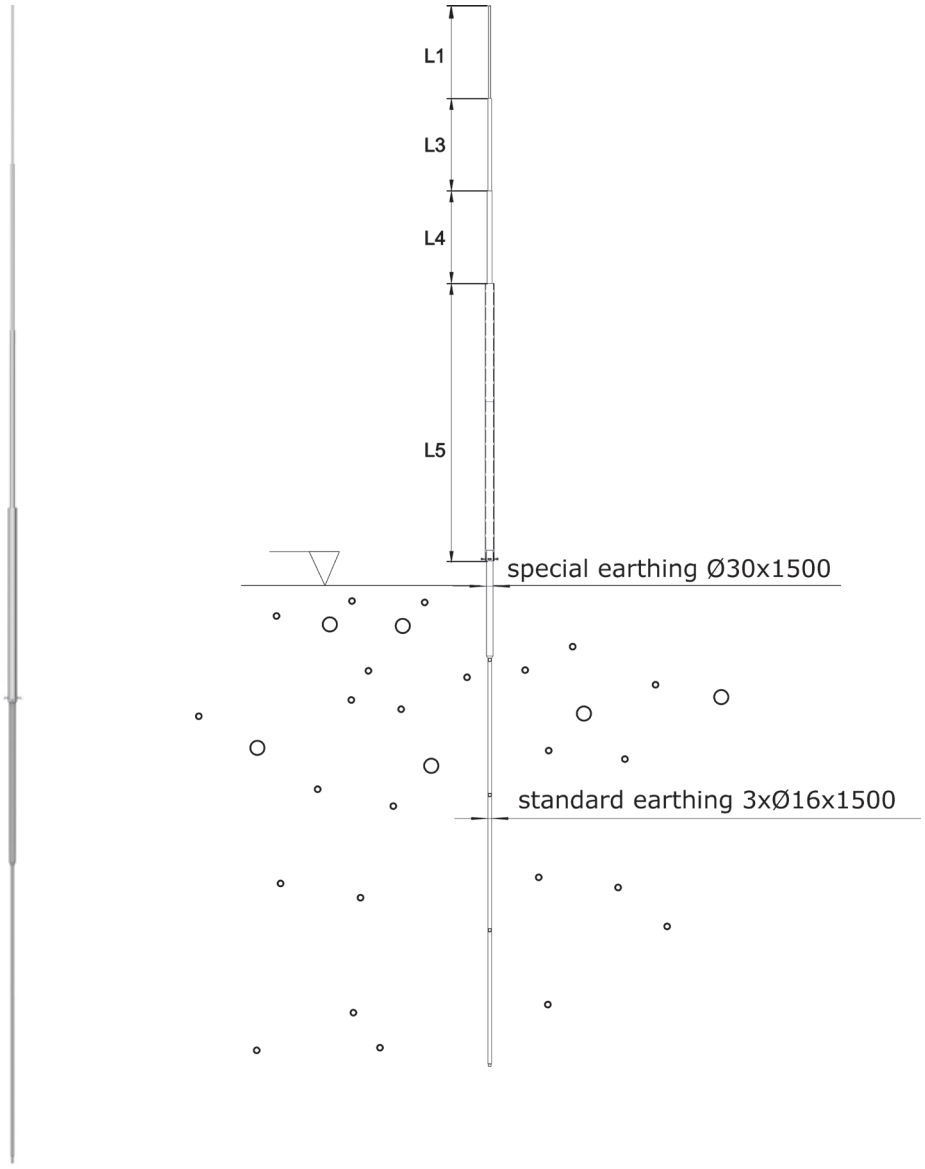




Facility protection using AH070001W in a system with free-standing vertical air terminals

For vertical air terminals with anchor construction for fundation, we can provide the base design of the well foundation. For technical assistance or product selection, please contact the technical department: www.en.ah.com.pl/technical department

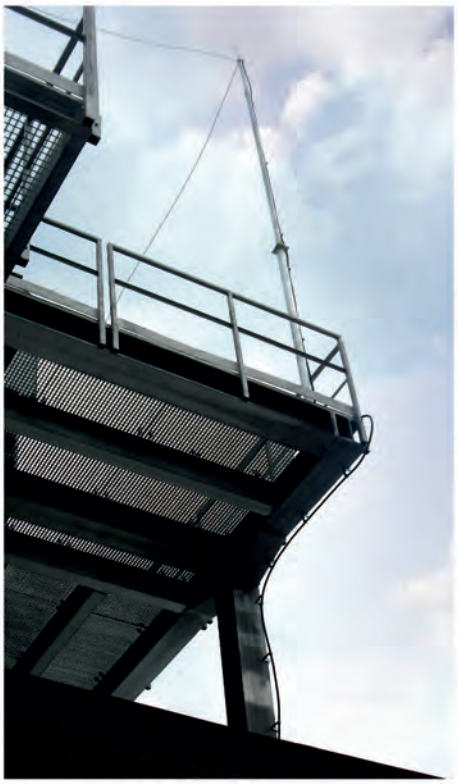
# VERTICAL AIR TERMINALS DEDICATED TO THE PROTECTION OF PHOTOVOLTAIC PANELS

## Vertical air terminal put on individual (single) earthing rod




| catalog No. | height [mm] | vertical air terminal components | | | | material | weight [kg] | wind zone |
|---|---|---|---|---|---|---|---|---|
| | | L1 (Ø10) [mm] | L3 (Ø16) [mm] | L4 (Ø22) [mm] | L5 (Ø40) [mm] | | | |
| **AH35361** | 5000 | 1000 | 500 | 500 | 3000 | Al (spire, support tube) galvanized steel (earthing) | 3,8 | I,II,III |
| **AH35331** | 6000 | 1000 | 1000 | 5000 | 3000 | | 4,1 | |

If the catalog doesn't include the vertical air terminal you are looking for, please contact our technical department. We make vertical air terminals to special order.





**Insulated mast for elevated air terminals with high voltage cables**

A system of elevated downconductors ensures taking over and of load distribution at the safe distance from the protected devices.

The insulator on top of a mast prevents the load from flowing down the mast to devices and structures. The lightning current is conducted to grounding using a high voltage conductor to protect both the devices located on the roof and the structures which otherwise could act as conductors through which the currents would be able to enter the building.



Bent masts to increase the protection angle of tank explosion zone..



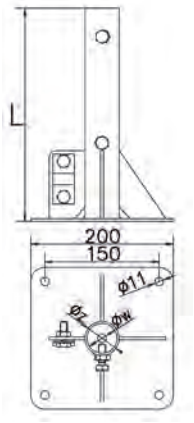
Insulated masts fixed to the structure of a sports hall to protect a LED screen.

# FIXINGS FOR LIGHTNING PROTECTION MASTS AND ACCESSORIES

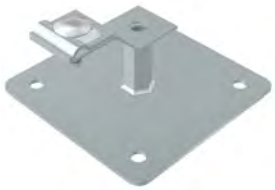
## Vertical air terminal installation – pipe



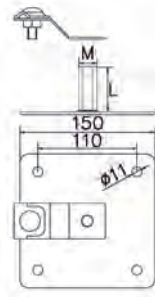
| catalog No. | L [mm] | Øw [mm] | Øz [mm] | cable range | material | weight [kg] |
|---|---|---|---|---|---|---|
| AH41621 | 300 | 42 | 48 | Ø 8-10mm | hot-dip galvanized steel | 2.7 |
| AH51111 | | 52 | 60 | | | 3 |
| AH51121 | 1000 | 42 | 48 | | | 5.3 |
| AH51131 | | 52 | 60 | | | 6.2 |




## Vertical air terminal installation – sleeve



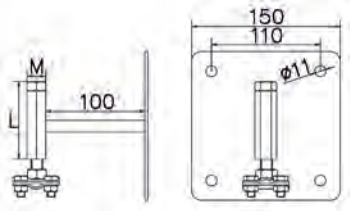
| catalog No. | L [mm] | M | cable range | material | weight [kg] |
|---|---|---|---|---|---|
| AH41641 | 50 | 12 | Ø 8-10mm | electro galvanized steel | 0.8 |
| AH41651 | 60 | 20 | | | 0.9 |




## Side mounting bracket

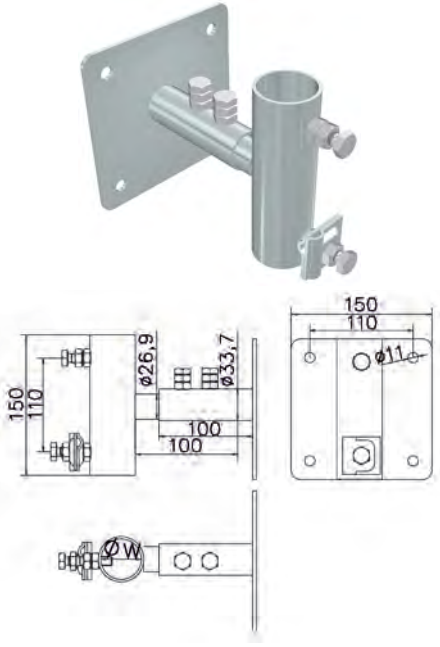


| catalog No. | M | L [mm] | cable range | material |
|---|---|---|---|---|
| AH50191 | M12 | 50 | Ø 8-10mm | electro galvanized stee |
| AH41691 | M20 | 60 | | |

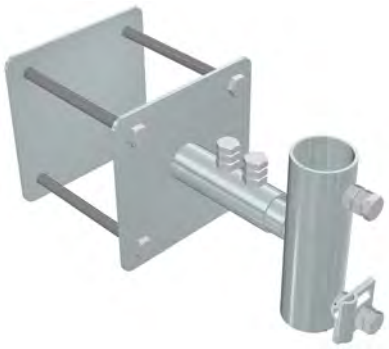


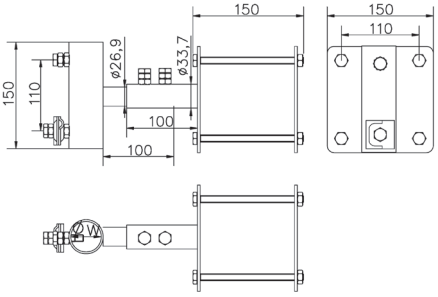

## Side vertical air terminal installation – pipe

| catalog No. | Øw [mm] | Øz [mm] | cable range | material | weight [kg] |
|---|---|---|---|---|---|
| AH41601 | 42 | 48 | Ø 8-10mm | electro galvanized steel | 1.5 |
| AH51141 | 52 | 60 | | | 1.8 |



## Side vertical air terminal installation with double plate – pipe



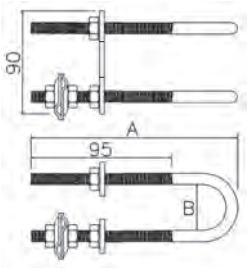



| catalog No. | Øw [mm] | Øz [mm] | cable range | material | weight [kg] |
|---|---|---|---|---|---|
| AH41711 | 42 | 48 | Ø 8-10mm | electro galvanized steel | 2.9 |
| AH51151 | 52 | 60 | | | 3.2 |

## U-bolt fixing



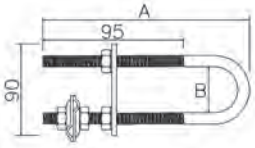
| catalog No. | A [mm] | B [mm] | cable range | material | weight [kg] |
|---|---|---|---|---|---|
| AH41631 | 140 | 40 | Ø 8-10mm | electro galvanized steel | 0.6 |
| AH51161 | 160 | 50 | | | 0.8 |




## Single u-bolt



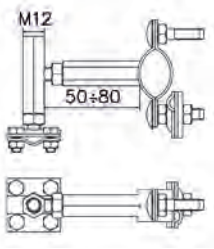
| catalog No. | A [mm] | B [mm] | cable range | material | weight [kg] |
|---|---|---|---|---|---|
| AH51171 | 140 | 40 | Ø 8-10mm | electro galvanized steel | 0.3 |
| AH51181 | 160 | 50 | | | 0.4 |



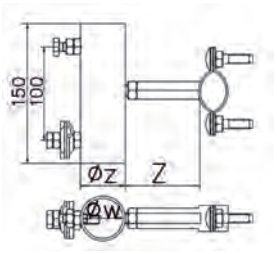

## Vertical air terminal attachment to railing/pipe Ø30-45 mm – sleeve



| catalog No. | cable range | material | weight [kg] |
|---|---|---|---|
| AH41661 | Ø 8-10mm<br>B up to 20 mm | electro galvanized steel | 0.7 |



## Vertical air terminal attachment to railing/pipe Ø30-45 mm – pipe




| catalog No. | Øw [mm] | Øz [mm] | Z [mm] | cable range | material | weight [kg] |
|---|---|---|---|---|---|---|
| AH41611 | 29 | 34 | 60÷90 | Ø 8-10mm | electro galvanized steel | 1,2 |
| AH51191 | 42 | 48 | | | | 1,4 |
| AH51211 | 52 | 60 | | | | 1,6 |



## Installing vertical air terminal with a band – pipe



| catalog No. | ØA [mm] | Øw [mm] | Øz [mm] | cable range | material | weight [kg] |
|---|---|---|---|---|---|---|
| AH41431 | without tape | 42 | 48 | Ø8-10mm | electro galvanized steel | 1,5 |
| AH51251 | | 52 | 60 | | | 1,8 |
| AH070001OC | | 42 | 48 | | | 1 |
| AH070002OC | | 52 | 60 | | | 1 |

*Handle without tape. Dedicated product: stainless steel tape (cat.no. AH23063)



## Installing vertical air terminal with a band – sleeve



| catalog No. | ØA [mm] | M [mm] | L [mm] | cable range | material | weight [kg] |
|---|---|---|---|---|---|---|
| AH41531 | without tape | M12 | 50 | Ø8-10mm | electro galvanized steel | 0,8 |
| AH41571 | | M20 | 60 | | | 0,9 |
| AH070003OC | | M12 | 50 | | | 0,3 |
| AH070004OC | | M20 | 60 | | | 0,4 |

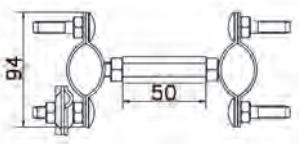
*Handle without tape. Dedicated product: stainless steel tape (cat.no. AH23063)



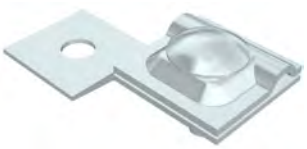
## Vertical air terminal attachment to railing/pipe Ø30-45 mm



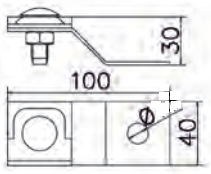
| catalog No. | material | cable range | weight [kg] |
|---|---|---|---|
| AH41891 | electro galva-nized steel | Ø 8-10mm | 0,6 |



## Wire cross connector



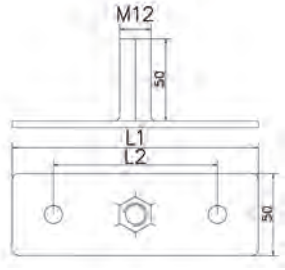
| catalog No. | Ø [mm] | material | cable range | bolts |
|---|---|---|---|---|
| AH51291 | 13 | stal ocynkowana elektrolitycznie | Ø 8-10mm | M10x30 |
| AH070005OC | 21 | | | |




## Fixing plate M12



| catalog No. | L1 [mm] | L2 [mm] | material | cable range |
|---|---|---|---|---|
| AH51261 | 80 | 50 | electro galvanized steel | Ø 8-10mm |
| AH51271 | 150 | 100 | | |
| AH51281 | 240 | 190 | | |

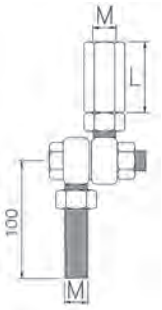



## Adjustment to lightning protection vertical air terminals

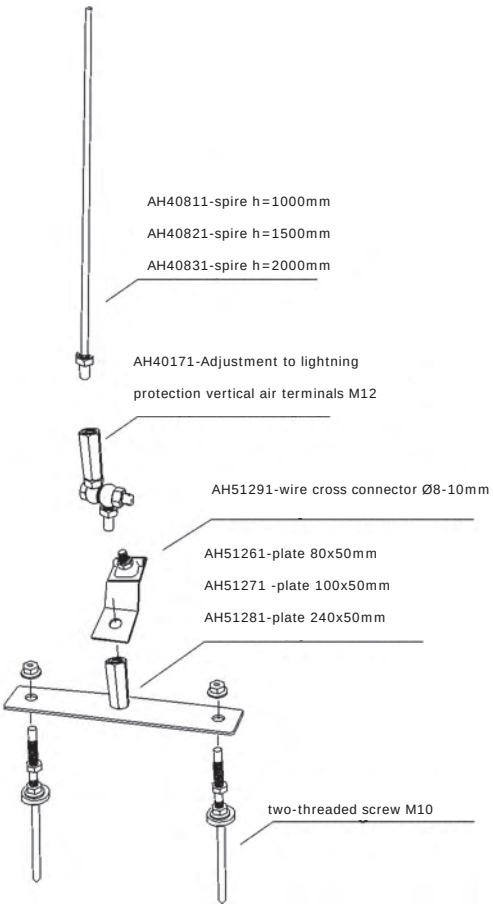


| catalog No. | M [mm] | L [mm] | material | weight [kg] |
|---|---|---|---|---|
| AH40171 | 12 | 50 | electro galvanized steel | 0.3 |
| AH40181 | 20 | 60 | | 1.0 |

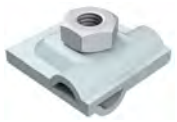
*Following assembly, the set should be secured with acid-free technical vaseline.





## Vertical air terminal connector for elevated terminals



| catalog No. | thread | cable range | material |
|---|---|---|---|
| AH39163 | M10 | Ø 8-10mm | INOX |

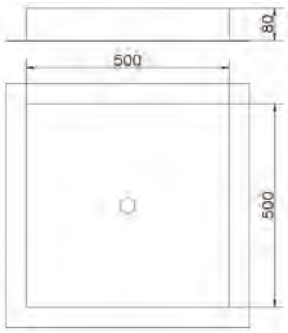





## Concrete weight large



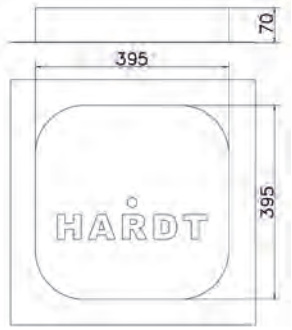
| catalog No. | material | weight [kg] |
|---|---|---|
| AH100001B | concrete weight rubber rug | 42 |




## Concrete weight



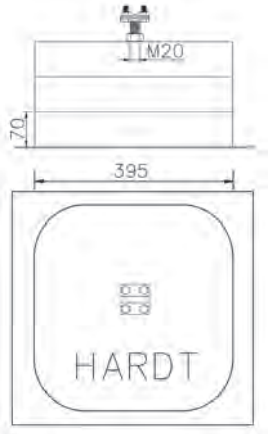

| catalog No. | material | weight [kg] |
|---|---|---|
| AH40270 | concrete weight rubber rug | 24 |




## Weight for stay in elevated terminals



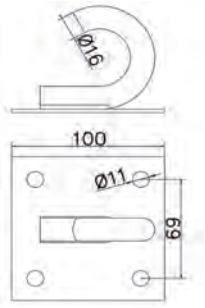

| catalog No. | material | cable range | weight [kg] |
|---|---|---|---|
| AH40290 | electro galvanized steel concrete weight rubber rug | Ø 8-10mm | 72 |




## Hook handle



| catalog No. | material | weight [kg] |
|---|---|---|
| AH31071 | electro galvanized steel | 0.5 |



# HIGH VOLTAGE CABLE AND ACCESSORIES

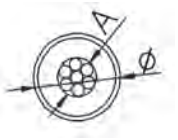
used to discharge lightning current in places where it is not possible to keep an insulation clearance

## HIGH VOLTAGE CABLE

### High-voltage cable (HVC)



| catalog No. | Ø [mm] | insulation clearance | section A [mm²] | material |
|---|---|---|---|---|
| **AH39000** | 20.5 | 75 | 50 | cross-linked polyethylene Al |
| **AH39100** | 18.5 | 75 | 35 | cross-linked polyethylene Cu |
| **AH39200** | 18.5 | 75 | 35 | |

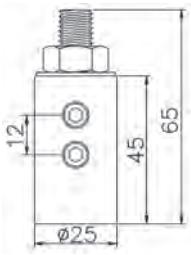



## HVC EQUIPMENT

### Vertical air terminal head with heat shrink band



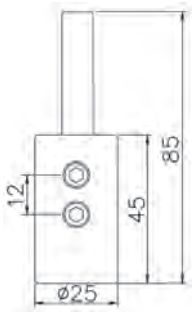
| catalog No. | Allen screws | band | material |
|---|---|---|---|
| **AH39014** | 2xM8x6 | 28x100 mm | polyethylene Al |
| **AH39012** | | | polyethylene Mo |
| **AH39013** | | | polyethylene INOX |




### HVC head with heat shrink band



| catalog No. | Allen screws | band | material |
|---|---|---|---|
| **AH39004** | 2xM8x6 | 28x100 mm | polyethylene Al |
| **AH39002** | | | polyethylene Mo |
| **AH39003** | | | polyethylene INOX |



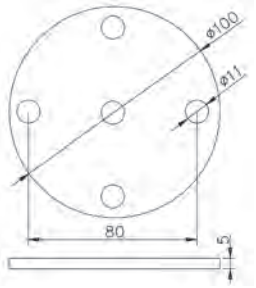

Types of high voltage cables and dedicated heads:

| catalog No. | material | catalog No. head / material | catalog No. head / material | others |
|---|---|---|---|---|
| **AH39000** | aluminium 50 mm² | **AH39014**/Al | **AH39004**/Al | |
| **AH39100** | copper 35 mm² | **AH39012**/Mo | **AH39002**/Mo | 150kA |
| **AH39200** | copper 35 mm² | **AH39013**/INOX | **AH39003**/INOX | 200kA |

## HVC mounting plate



| catalog No. | material |
|---|---|
| AH39024 | Al |




## HVC cable band



| catalog No. | size [mm] | material |
|---|---|---|
| AH39033 | 360x4.5x0.3 | INOX |

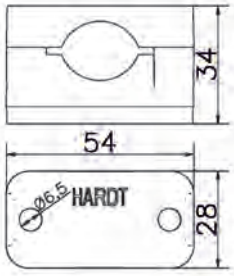



# HVC HANDLES

## Plastic bracket for HVC



| catalog No. | material | cable range |
|---|---|---|
| AH39080 | plastic | Ø 17-23mm |

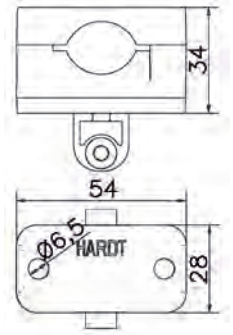



## Plastic bracket for HVC with connector



| catalog No. | material | cable range |
|---|---|---|
| AH39090 | plastic | Ø 17-23mm |

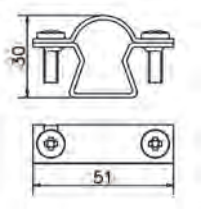
* the bracket is dedicated to AH 12140P and AH 12140P+




## Screw-in bracket for mounting HCV



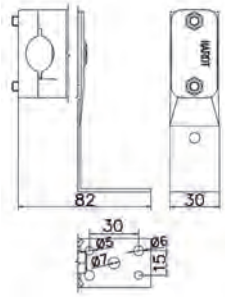
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH39071 | electro galvanized steel | Ø 19-23mm | 2xM5x16 |




## Straight angle bracket for HVC



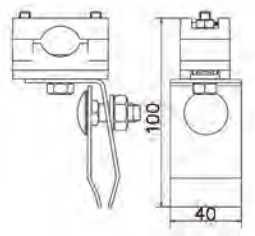
| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH39091 | electro galvanized steel | Ø 17-23mm | 1xM8x16<br>2xM6x30 |



## Universal sheet metal bracket for HVC



| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH39051 | electro galvanized steel | Ø 17-23mm | 1xM18x16<br>2xM6x30<br>1xM10x30 |

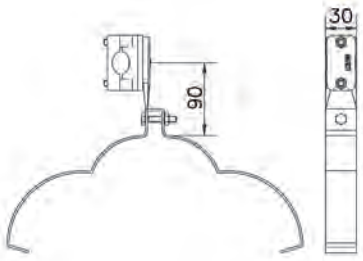



## Profiled ridge tile bracket for HVC



| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH39061 | electro galvanized steel | Ø 17-23mm | 1xM8x16<br>3xM6x30 |

*Bend handle (before galvanizing) based on a ridge tile provided by the customer.
This solution greatly improves the installation's aesthetics and makes assembly easier.

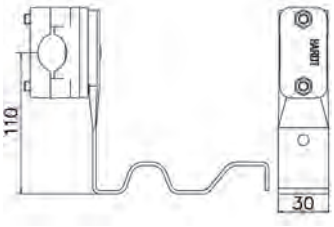



## Profiled tile bracket for HVC



| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH39031 | electro galva-nized steel | Ø 17-23mm | 1xM8x16<br>2xM6x30 |

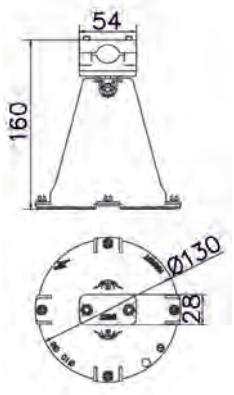
*Bend handle (before galvanizing) based on a roof tile provided by the customer.
This solution greatly improves the installation's aesthetics and makes assembly easier.




## Concrete holder in plastic for the HVC



| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH39060P | plastic/concrete electro galvanized steel | Ø 17-23mm | 2xM6x30 |




## Screw-in bracket for mounting HCV



| catalog No. | L [mm] | material | cable range | bolts |
|---|---|---|---|---|
| AH39081 | 305 | plastic electro galvanized steel | Ø 17-23mm | 2xM6x30 |
| AH39111 | 265 | | | |
| AH39121 | 105 | | | |

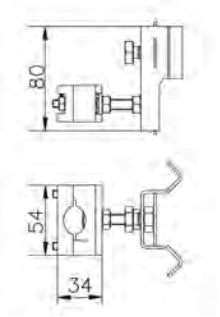


## HVC pipe bracket



| catalog No. | Ø [mm] | material | cable range | bolts |
|---|---|---|---|---|
| **AH39441** | without tape | electro galva-nized steel tplastic | Ø17-23mm | 2xM8x16<br>4xM6x30<br>1xM10x30 |

*Handle without tape. Dedicated product: stainless steel tape (cat.no. AH23063)

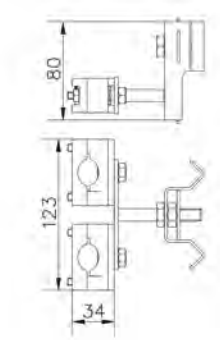



## Double HVC pipe bracket



| catalog No. | Ø [mm] | material | cable range | bolts |
|---|---|---|---|---|
| **AH39541** | without tape | electro galva-nized steel plastic | Ø17-23mm | 2xM8x16<br>4xM6x30<br>1xM10x30 |

*Handle without tape. Dedicated product: stainless steel tape (cat.no. AH23063)

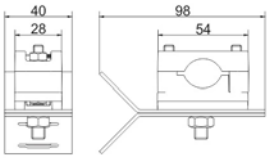



## HVC pipe bracket

| catalog No. | Ø [mm] | material | cable range | bolts |
|---|---|---|---|---|
| **AH080001TWOC** | without tape | electro galva-nized steel plastic | Ø17-23mm | 2xM6x30 |

*Handle without tape. Dedicated product: stainless steel tape (cat.no. AH23063)



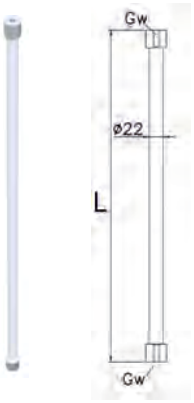


# INSULATED RODS AND BRACKETS

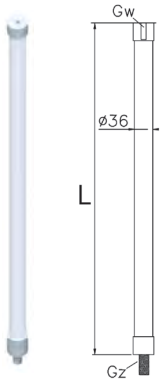
they are used to isolate and provide the required isolation distance from the protected device

## INSULATED BARS

### Insulated bars




| catalog No. | L [mm] | Ø [mm] | $G_w$ | $G_z$ | material |
|---|---|---|---|---|---|
| AH41741 | 500 | 22 | M12x2 | - | fiberglass Al |
| AH41801 | 1000 | | | | |
| AH41751 | 1000 | 36 | M10 | M20 | |
| AH41761 | 1500 | | | | |

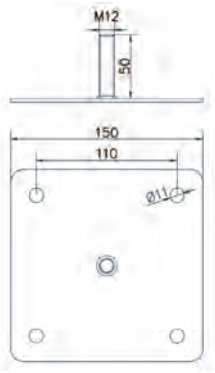



## BRACKETS AND CONNECTORS

### Vertical mounting bracket – thread



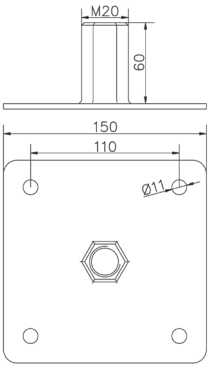
| catalog No. | material |
|---|---|
| AH41781 | electro galvanized steel |




### Vertical mounting bracket – sleeve



| catalog No. | material |
|---|---|
| AH41771 | electro galvanized steel |

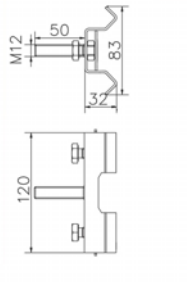


## Pipe mounting bracket – thread

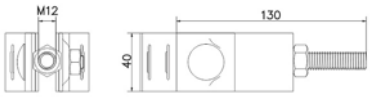
| catalog No. | Ø [mm] | bolts | material |
|---|---|---|---|
| AH50141 | without tape | 2xM10x30 | electro galvanized steel |
| AH090001OC | | M10x40 | |

*Handle without tape. Dedicated product: stainless steel tape (cat.no. AH23063)







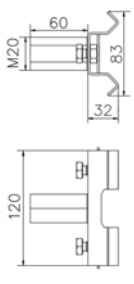




## Pipe mounting bracket – sleeve

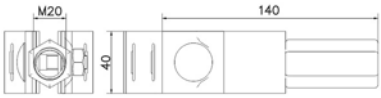
| catalog No. | Ø [mm] | bolts | material |
|---|---|---|---|
| AH50181 | without tape | 2xM10x30 | electro galvanized steel |
| AH090002OC | | M10x40 | |

*Handle without tape. Dedicated product: stainless steel tape (cat.no. AH23063)







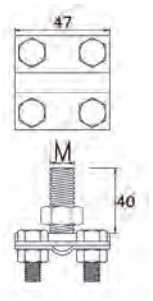



## 4-hole threaded connector



| catalog No. | material | cable range | bolts |
|---|---|---|---|
| **AH38271...** | electro galvanized steel | Ø 8mm | 4xM8x20 |

* to choose thread diameter, add a symbol to the last digit of the catalog number:
**M10** – thread M10
**M12** – thread M12
**M20** – thread M20

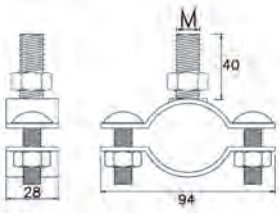



## 2-hole threaded connector



| catalog No. | material | cable range | bolts |
|---|---|---|---|
| **AH28401...** | electro galvanized steel | Ø 30-45mm | 2xM8x25 |

* to choose thread diameter, add a symbol to the last digit of the catalog number:
**M10** – thread M10
**M12** – thread M12
**M20** – thread M20

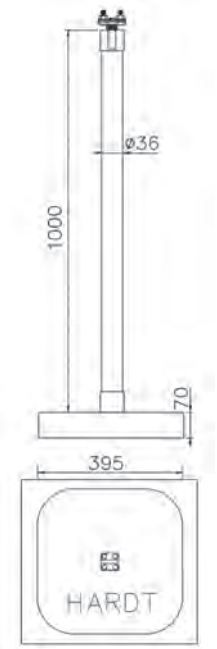



# INSULATED BRACKET

## Insulated bracket with weight



| catalog No. | material | cable range | bolts |
|---|---|---|---|
| **AH41791** | electro galvanized steel<br>fiberglass<br>Al<br>concrete weight<br>rubber rug | Ø 8mm | 4xM8x20 |



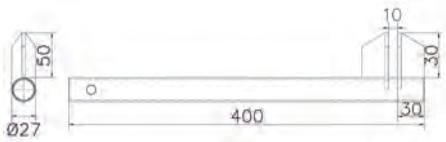
# OTHER PRODUCTS

## WIRE BENDING DEVICE

### Wire bending device



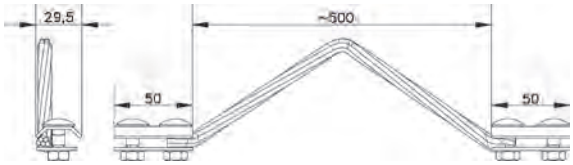
| catalog No. | material |
|---|---|
| AH34011 | electro galvanized steel |




## COMPENSATION JOINTS

### Wire/wire compensation joint





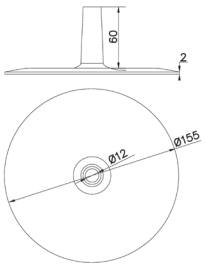

| catalog No. | material | cable range | bolts |
|---|---|---|---|
| AH33031 | electro galvanized steel Al cord | Ø 8mm | 4xM8x20 |
| AH3303OG | hot-dip galvanized steel Al cord | | |
| AH33032 | Mo Al cord | | |
| AH33033 | INOX Al cord | | |

## LIGHTNING PROTECTION PENETRATIONS

### Plastic lightning penetration



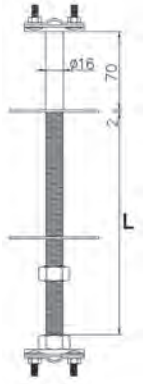
| catalog No. | material | other |
|---|---|---|
| AH38500 | PVC plastic | dedicated to PVC membrane covering |
| AH100001TW | TPO plastic | dedicated to TPO-membrane covering |




### Steel lightning penetration



| catalog No. | L [mm] | material | cable range | bolts |
|---|---|---|---|---|
| AH38511 | 200 | electro galvanized steel | Ø 8mm tape up to 40 mm | 4xM8x20 |
| AH38521 | 300 | | | |
| AH38531 | 400 | | | |

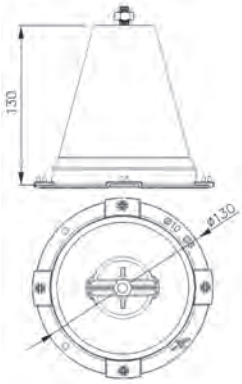


# SUPPORTS AND CABLE TRAY BRACKETS

## Cable tray bracket

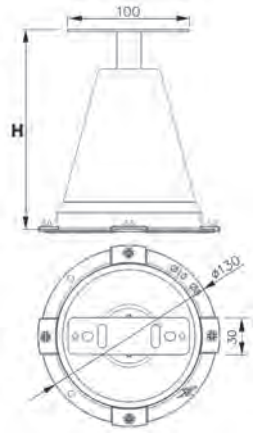


| catalog No. | material | weight [kg] |
|---|---|---|
| AH38541P | electro galvanized steel polypropylene/ concrete | 0,95-1,05 |





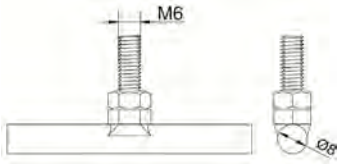

| catalog No. | H [cm] | material | hole in the plate | weight [kg] |
|---|---|---|---|---|
| AH38551P | 15 | electro galvanized steel polypropylene/ concrete | M6 | 1-1,1 |
| AH38561P | 20 | | | 1,05-1,15 |




## Adapter for mounting cable trays



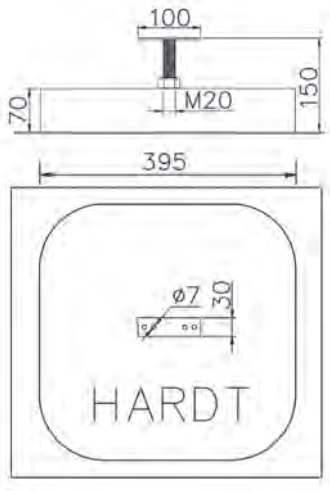
| catalog No. | material |
|---|---|
| AH100001OC | electro galvanized steel |




## Cable tray support




| catalog No. | material | weight [kg] |
|---|---|---|
| AH38571 | electro galvanized steel concrete weight rubber rug | 24 |



# ACCESSORIES

## Warning plates

| catalog No. | material |
|---|---|
| AH12310 | plastic |




| catalog No. | material |
|---|---|
| AH12320 | plastic |




## Mounting adhesive for ceramic brackets

| catalog No. | volume [ml] |
|---|---|
| AH29090 | 310 |




## Acid-free technical vaseline

| catalog No. | consumption | weight [kg] |
|---|---|---|
| AH12300 | up to 100 brackets | 0.9 |




## Anti-corrosion tape

| catalog No. | width [mm] | length [m] | thickness [mm] | weight [kg] |
|---|---|---|---|---|
| AH14250 | 30 | 10 | 2.5 | 0.44 |
| AH14260 | 50 | 10 | | 1.14 |







## Membrane adhesive paste

| catalog No. | consumption | weight [kg] |
|---|---|---|
| AH12330 | up to 500 brackets | 10 |



## Adhesive for plastics, PVC, PV, PC

| catalog No. | consumption | volume [l] |
|---|---|---|
| AH12340 | up to 200 brackets | 5 |

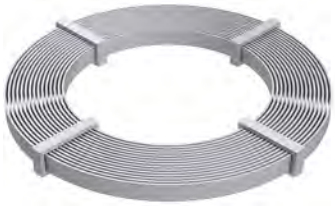



## Sleeve Ø12x60 mm

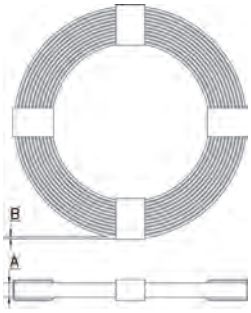
| catalog No. | material |
|---|---|
| AH29050 | plastic |



## 23x0.3 mm stainless steel tape



| catalog No. | A x B [mm] | material |
|---|---|---|
| AH23063 | 23x0,3 | INOX |
| AH030001IN | 12,7x0,7 | INOX |



# NOTES

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