100 years DEHN group

Lightning Protection

Supplement Catalogue 2010

www.dehn.co.uk

Catalogue 2010

. . .Your safety is our concern.

Valid from 1st January 2010

We reserve the right to introduce changes in performance, configuration and technology, dimensions, weights and materials in the course of technical progress.

Publication No. DS171/UK/2010

Lightning current arresters and surge protection by DEHN (U.K.) Ltd

DEHN – Safety in lightning interception!

DEHN – Safety in lightning protection.

DEHN – Safety in earthing.

At first there was the idea of diverting lightning to the ground without risk for house and home. This was the challenge, Hans Dehn met in his company founded in Nuremberg in 1910. Since the beginning of the 1920s DEHN has produced lightning protection and earthing components. Over the years, a diversified product range for external lightning protection came into existence.
In the couse of its history of almost 100 years, the initial handicraft business has become a worldwide operating industrial company with three product ranges:

Lightning Protection
Surge Protection
Safety Equipment

With the experience in research and development, production, quality assurance and application of components for lightning and surge protection as well as safety equipment, we have influenced national and international standardisation considerably. One most important aim is to stipulate a maximum quality and safety level. This has made DEHN + SÖHNE known as a brand of quality far beyond the borders of Germany. DEHN products meet all existing relevant standards for the scope of lightning and surge protection as well as British EN-Standards such as BS EN 50164-1:2008: Lightning protection components (LPC). Requirements for connection components

Besides continuous participation in national and international fairs, DEHN + SÖHNE offers extensive technical support and customer service on site. We also organise seminars and lectures, provide detailed information and designing material, expert contributions to trade publications and a steady PR work on the subject of lightning and surge protection as well as safety equipment.

Today, the location in Neumarkt, Germany, unifies research and development, production, sales and administration for lightning protection, surge protection and safety equipment. The company is certified to EN ISO 9001 and also to EN ISO 1400. With approx. 850 employees, a process-orientated management, laboratories, computer-controlled production and a wide product range for safety, DEHN + SÖHNE is a worldwide recognised and leading family-owned company.

... Your safety is our concern. This not only applies to the protective features and benefits of our products, but also for the relationship with our customers and suppliers.

You always can be sure, we are your reliable partner. For further information please contact us either by telephone on +49 9181 906-0 or by email info@dehn.de.

... Your Safety is our Concern.

DEHN – Keeping you informed.

Lightning Protection

Already in 1752 Benjamin Franklin discovered that lightning is an electrical phenomenon. The invention of the lightning conductor is based on his contribution. It is common knowledge today that lightning protection is more than just an assembly of an air termination system, down conductors and earth termination system. An extensive protection system is needed which is defined and illustrated in standards. The current standard series IEC 62305 is an internationally approved standard. It is binding, both legally and technically. This standard series represents a complete and comprehensive concept for lightning protection. The new lightning protection standard IEC 62305 consists of the following parts:

IEC 62305-1:
Protection against lightning
Part 1: General principles
Part 1 includes general principles to be taken into consideration for lightning protection of buildings, their installations, persons and power supply lines. It informs about the danger of lightning (sources, causes and kinds of damage), the necessity of lightning protection and possible protection measures. Furthermore, it provides an overview of the entire standard series about lightning protection explaining the proceeding and protection principles, which the following parts are based on.

IEC 62305-2:
Protection against lightning
Part 2: Risk management
The risk management according to IEC 62305-2 uses a risk analysis to assess whether or not lightning protection is required. Then, the optimum level of lightning protection, technically and economically, is defined. Finally, the residual risk is calculated. Starting from an entirely unprotected state of an object, the remaining risk is reduced until it is falling below the acceptable risk. This procedure can be used to determine the class of a lightning protection system according to IEC 62305-3 as well as for defining a complex protection system against the **L**ightning **E**lectro**M**agnetic Im**P**ulse (LEMP) according to IEC 62305-4. This standard takes protection measures into consideration both for buildings including persons inside of them and electrical and electronic systems for power supply lines.

IEC 62305-3
Protection against lightning
Part 3: Physical damage to structures and life hazard
This part specifies protection of structures and life against material damage and injuries with possible fatal consequences caused by lightning currents or dangerous sparks especially through direct lightning strokes. A lightning protection system, as a protection measure, consists of an external lightning protection system (air-termination system, down conductors and earth-termination system) and internal lightning protection system (lightning equipotential bonding and separation distance). The lightning protection system is defined by its protection class, where the effectiveness of protection class I decreases down to protection class IV. The required protection class is determined by the risk analysis according to IEC 62305-2, unless it has not been defined by regulations (e.g. construction regulations for hospitals, power plants, etc.).

IEC 62305-4
Protection against lightning
Part 4: Electrical and electronic systems within structures
The objective of this part is protection of structures with incorporated electrical and electronic systems against the effects of the electromagnetic impulse of lightning.
In IEC 62305-4, this complex protection is divided into a series of concrete individual protection measures, which designers and constructors can then combine to a complete system adapted to the object to be protected.

EN 50164-1 / VDE 0185
Part 201: Lightning protection components
Part 1: Requirements for connection components
This section specifies testing procedures for connection components. Our terminals and connecting devices are continuously checked according to this standard. Tested components are marked with this test symbol:
For further details please see also "Manufacturer Test Report" at **www.dehn.de**

EN 50164-2 / VDE 0185
Part 202 Lightning Protection Components
Part 2: Requirements for conductors and earth electrodes
This section specifies the requirements on conductors, air-termination rods, earth entries and eart electrodes.

In Germany. for some parts of EN 62305 supplements have been published by the German lightning protection committee givin additional information to the user.

DIN EN 62305-2, Beiblatt 1
(VDE 0185-305-2, Beiblatt 1:
Blitzgefährdung in Deutschland)
Title (English):
Lightning threat in Germany

DIN EN 62305-2, Beiblatt 2
(VDE 0183-305-2, Beiblatt 2:
Berechnungshilfe zur Abschätzung des Schadensrisikos für bauliche Anlagen)
Title (English):
Calculation assistance for assessment of risk for structures

DIN EN 62305-3, Beiblatt 1
(VDE 0185-305-3, Beiblatt 1:
Zusätzliche Informationen zur Anwendung der DIN EN 62305-3)
Title (English):
Additional information for application of DIN EN 62305-3

DIN EN 62305-3, Beiblatt 2
(VDE 0185-305-3, Beiblatt 2:
Zusätzliche Informationen für besondere bauliche Anlagen)
Title (English):
Additional information for special structures

DIN EN 62305-3, Beiblatt 3
(VDE 0185-305-3, Beiblatt 3:
Zusätzliche Informationen für die Prüfung und Wartung von Blitzschutzsystemen)
Title (English):
Additional information for the testing and maintenance of lightning protection systems

DIN EN 62305-3, Beiblatt 4
(VDE 0185-305-3, Beiblatt 4: Verwendung von Metalldächern in Blitzschutzsystemen
Title (English):
Use of metal roofs in lightning protection systems

These supplements are not inconsistent with the actual lightning protection standard and have informative character. It has to be stated, however, that these supplements are reflecting the German state-of-the-art and therefore they are very important.

DEHN + SÖHNE offers components and devices for complete lightning protection systems according to IEC 62305.

The present main catalogue contains all components for lightning protection, earthing and equipotential bonding. If requested, we will be pleased to send you also more detailed technical information.

We will continue striving to be one step ahead of the latest technology. This will be, most importantly, to the advantage of our partners.

Lightning Protection Guide

Our Lightning Protection Guide is an indispensable work equipment for lightning protection specialists.
It includes procedure documentation, information and lists which the specialist needs for his work.
The Lightning Protection Guide shall help to find solutions for lightning protection problems, to design and install lightning protection systems, but also to measure and maintain external and internal lightning protection systems.
We shall be pleased to send it to you.

Contents:

1. State of the art for installation of lightning protection systems
2. Characteristics of lightning current
3. Designing a lightning protection system
4. Lightning protection system
5. External lightning protection
6. Internal lightning protection
7. Protection of electrical and electronic systems against LEMP
8. Choice, installation and assembly of surge protective devices (SPDs)
9. Application proposals

DEHN CD / DVD

DS702E BLITZPLANER®

DS707E DEHNtour
DEHN + SÖHNE – Company presentation

DS708E 3D-Animated films

Lightning Protection
- Lightning protection of roof superstructures and observance of the separation distance with HVI conductors light
- Driving in earth rods
- External lightning protection systems of a residential building
- DEHNcon H – Isolated air-termination systems for receiving installations
- Straightening of aluminium wires
- DEHNiso Combi System for isolated air-termination systems

Power Supply Systems
- DEHNguard TH...LI with Pro-Active-Thermo-Control
- New Red/Line-DEHNventil modular

Information Technology Systems
- DEHN protects Cell Sites

Note

Installation and **mounting instructions** as well as our catalogues and brochures can also be downloaded from our website **www.dehn.de.**

Contact

The printed publications can be ordered from our **export department**
Fax +49 9181 906-444
export@dehn.de

Publications

Our detailed brochures covering individual products and product groups provide further technical information.

DS103E DEHN protects Wind Turbines

DS104E DEHN protects Cell Sites

DS107E Safety for Sewage Plants

DS109E DEHN protects Photovoltaic Systems

DS151E Reliable System Solutions for Isolated Air-Termination Systems

DS162E Foundation Earth Electrode

DS165E Isolated Lightning Protection for PV Systems

DS154E Pipe clamp for use in potentially explosive atmoshperes

DS509E DEHN protects

Further main catalogues

DS396E Safety Equipment

DS570E Surge Protection

DEHNsupport

Calculation programmes for lightning protection systems

In order to avoid damage as a result of lightning strokes, specific protection measures have to be taken at the structures to be protected. Lightning protection standards have been adapted to reflect growing scientific knowledge in the field of lightning research.

In January 2006, the standard series IEC 62305 became the new international standard. Since February 2006, this standard series is also avail- able as European standard EN 62305. Thus, lightning protection is globally standardised.

The British standard was published under the authority of the Standard Policy and Strategy Commitee on 29. September 2006.

BS EN 62305 is structured in four parts.

- Part 1 – General principles
- Part 2 – Risk management
- Part 3 – Physical damage to structures and life hazard
- Part 4 – Electrical and electronic systems within structures

BS EN 62305 supersedes BS 6651:1999, which will be withdrawn on 31. August 2008

In all parts of the standard, design principles are outlined. Since these design principles are very complex, design tools are required. DEHNsupport software helps to create concepts according to these design principles.

The user-friedly DEHNsupport interface offers technical experts the opportunity to apply normative specifications to structures which are to be protected.

This demonstration version provides a short overview of the application possibilities offered by the software.

In order to provide the user with systematic support for applications DEHNsupport is subdivided into the following design tools:

- DEHNrisk-Tool, Risk management according to EN 62305-2, IEC 62305-2; DIN EN 62305-2; (VDE 0185-305-2); (BS EN 62305-2/-3 (update autumn 2007))
- Calculation of the seperation distance
- Determination of height for air-termination rods
- Calculation of the minimum length of earthing electrodes

System requirements

- IBM compatible PC (Pentium 1000 or comparable processor)
- Min. 128 MB RAM (256 MB recommended)
- Min. 50 MB free hard disc space
- Monitor resolution min. 1024 x 768 pixels, colour depth min. High Color (16 bit)
- 16 MB VGA graphics card (32 MB or higher recommended)
- Operating systems: Windows 2000/XP/2003/Vista
- Internet Explorer 5.0 (or higher)
- Internet connection (optional)

Order information

DEHN offers you the opportunity to pre-order the DEHNsupport software for the price of £100.00 if ordered by 01.11.2007. For orders placed after 01.11.2007 the software can be obtained at the regular price of £170.00. The price includes two single user licences. If the software is ordered together with a full-day workshop the cost will be £370.00 for orders placed by 01.11.2007 or £450.00 for orders placed after 01.11.2007. For more detailed information on the workshops please visit our homepage at www.dehn.co.uk (Prices do not include VAT and cost of delivery)

☐ I would like to order the DEHNsupport software (version/BS EN 62305)

☐ I would like to order the DEHNsupport software (version/BS EN 62305) including the workshop

Name: _____

Company: _____

Address: _____

Address: _____

Phone/Fax: _____ _____

Signature: _____ Date: _____

DEHN – Technical Explanations.

1. Notes on Application

– **DEHNconductor System** is a range of components for installing isolated down-conductor systems.
The most important component of this product family is the worldwide unique HVI® conductor. This HVI® conductor is designed in accordance with the regulations of high-voltage engineering to control the disruptive discharge voltages and creepage discharges arising at lightning strokes.
Patent No. DE 10228665
Patent Nr. DE 10233528B4

– **DEHNiso** Spacer is a modular fixing programme for air-termination rods, wires/cables and pipes. Thus, isolated lightning protection air-termination systems can be installed according to the protective angle method. At site, e.g. metal roof mounted structures can be universally integrated into the protected zone.

– **DEHNhold** is a new generation of conductor and rod holders out of stainless steel (StSt). These supports out of the standard material stainless steel are suitabel for the fixing of different condcutor material (steel, aluminium, copper and StSt). The slotted cleat allows for mounting without the two fixing screws to be unscrewed.

– Roof and wall conductor holders with the single screw cleat **DEHNQUICK®** for easy installation save a lot of mounting time.

– The plastic **DEHNsnap®** holder allows for quick and easy installation (insert the conductor, push in the cap without tools) and offers great advantages due to its technology (no mechanical strain on the snap lock, no release of the conductor) and can be used in connection with different braces as a roof and wall conductor holder.

– **DEHNgrip®** is a screwless stainless steel holder system that has been included in the programme as DEHNgrip, a complete stainless steel unit, in addition to the plastic DEHNsnap® holder system. Also this screwless support system is suitable both as a roof and wall conductor holder for conductors Ø8 mm. The conductor is fixed in DEHNgrip® by a simple push-in. DEHNgrip® can be used as a single element (applied as a conductor holder) and as a roof conductor holder in connection with different braces.

– The **DEHNfix®** conductor and rod holder are strike-in supports furnished with a pre-inserted striking dowel. Cleat, distance holder and striking dowel form one unit. The system allows for simple, quick and professional installation.

– **DEHNalu-Draht**, Ø8 mm, is a lightning discharge wire (according to EN 50164-2) made of a special aluminium alloy (also in torque quality). This wire is suitable for aboveground installation and provides considerably better solidity characteristics than pure aluminium wire Ø10 mm. Moreover, it has a light transportation weight, easier handling and high corrosion resistance characteristics.
It has to be considered, that, like all aluminium materials, also DEHNalu-Draht without plastic coating must not be used in flush-mounted installations or concrete.

– **Components of zinc die casting** may be used neither in flush-mounted installations nor in soil.

– **Hot-dip-galvanised steel** is also suitable for embedding in concrete.

– **Stainless steel** (catalogue description: StSt (V4A); has been proved to be very resistive against especially aggressive environmental conditions and is suitable for aboveground and underground installation. For further information on application as earthing material please see also DIN VDE 0151/06.86.

– **Terminal lugs** for linking of earth electrodes or reinforcements in the foundation with earth electrodes, which are installed in the soil, have to be resistant against corrosion. For this purpose, stainless steel or isolated terminal lugs can be used.

– In opposition to DIN 1045, foundation earth electrodes, down conductors, earthing and equipotential bonding conductors made of galvanised steel may be connected in concrete with the steel reinforcement.

– Connections of components/ conductors made of different materials such as St (steel) or Al (aluminium) with Cu (copper) require additional measures against corrosion. In these cases components with StSt intermediate plate or bimetallic connectors, clamps or even inlays made of double metal (copper-plated aluminium sheets or sleeves) are necessary. Intermediate lead layers are not permissible.

– Using plastic lightning protection components in connection with roof covers made of roof sheetings, the material compatibility (long-term endurance) has to be checked with the manufacturer of the roof cover or with our company.

– Connections in the soil have always to be protected in accordance with the construction standard EN 62305-3 / VDE 0185-305-3; BS EN 62305-3, i.e. additionally with a protection measure against corrosion, e.g. coating with anticorrosive bands.

2. Abbreviations

The following list shows and explains all abbreviations mentioned in the present catalogue.

2.1 Conductor Holders

Abbreviation in catalogue	
CH	Conductor holder
RCH	Roof conductor holder

2.2 Conductor Types

Abbreviation in catalogue	
Fl	Flat conductor
Rd	Round conductor

2.3 Materials

Abbreviation in catalogue	Material
Al	Aluminium
AlMgSi	Aluminium magnesium silicon wrought alloy
E-AlMgSi	Electrical aluminium alloy
G-AlMg3	Aluminium casting with magnesium
StSt	Stainless steel (Material No. e. g. 1.4016/1.4301/1.4303)
StSt (V4A)	Stainless steel (Material No. 1.4571/1.4401)
St/blank	Steel (black)
St/tZn	Steel, hot dip galvanised
St/gal Zn	Steel, galvanised
St/Cu	Steel, copper-coated
MCI	Malleable cast iron
MCI/tZn	Malleable cast iron, hot dip galvanised
ZDC	Zinc die casting
GCI	Grey cast iron
Cu	Copper, electrical copper
RCB	Red casting brass
Ms	Brass
Ms/gal Cu	Brass, copper-coated
Ms/gal Sn	Brass, tin-coated
Cu/gal Sn	Copper, tin-coated
Cupal	Copper-plated aluminium
Sn	Tin
P	Plastic material / Polyethylene / Polyamide / Polystyrene
PVC	Polyvinyl chloride
GRP	Glass-fibre reinforced plastic
UP	Polyester (unsaturated)
PA	Polyamide
EVA	Ethylene vinyl acetate copolymer
XLPE	Cross-linked polyethylene
PP	Polypropylen

3. Material combinations among air termination systems as well as down conductors and with parts of the construction

Provided, that no especially aggressive environmental influences have to be considered, the material combinations listed below have proved themselves. This is based on practical experience.

	Steel (tZn)	Aluminium	Copper	Stainless Steel	Titanium	Tin
Steel (tZn)	yes	yes	no	yes	yes	yes
Aluminium	yes	yes	no	yes	yes	yes
Copper	no	no	yes	yes	no	yes
Stainless Steel	yes	yes	yes	yes	yes	yes
Titanium	yes	yes	no	yes	yes	yes
Tin	yes	yes	yes	yes	yes	yes

4. Symbols

Screws	Screw heads
Half-round wood screw	Slot
Countersunk head wood screw	Hexagon
Wood screw with threaded head	Hexagon with slot
Cheese head screw	Cross recessed
Truss head screw	Star drive
Knurled screw	Combined slot
Countersunk screw	
Raised head screw	

5. Recommended values

Screw	Tightening torque
M5/M6	≥ 4 Nm
M8	≥ 10 Nm
M10	≥ 20 Nm
M12	≥ 25 Nm

LIGHTNING PROTECTION

Earth Pit

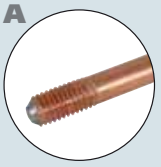
Earth Rods

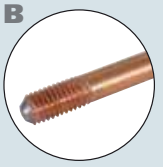
Rod to Strip Clamp

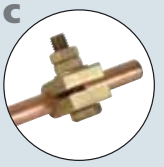
Copper Bond Earth Rods

UL467, BS EN 50164-2

Copperbond earth rods are made from low carbon high tensile steel rod with a molecularly bonded electrolytic copper coating.



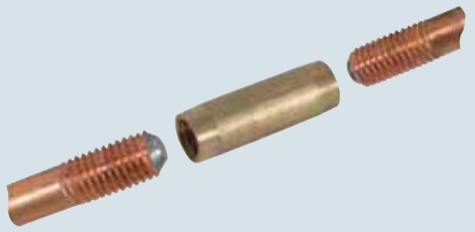


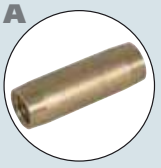


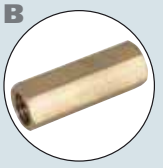
Material	Rod Length	Diameter	Shank Diameter	Weight	PU pc(s)	Part No.
A MODEL Copper bond earth rod to BS6651						
St / Cu	1200 mm	16 mm	14.2 mm	1.53 kg	5	DBS1612
St / Cu	1500 mm	16 mm	14.2 mm	1.88 kg	5	DBS1615
St / Cu	1800 mm	16 mm	14.2 mm	2.29 kg	5	DBS1618
St / Cu	2400 mm	16 mm	14.2 mm	3.00 kg	5	DBS1624
B MODEL Copperbond earth rod not to BS						
St / Cu	1200 mm	16 mm	14.2 mm	1.53 kg	20	DBR1612
St / Cu	1500 mm	16 mm	14.2 mm	1.88 kg	5	DBR1615
C MODEL Copperbond earth rod Domestic type with clamp not to BS						
St / Cu	1200 mm	9.5 mm		0.61 kg	50	DBR9512C

Fittings for Copperbond Earth Rods

Couplings



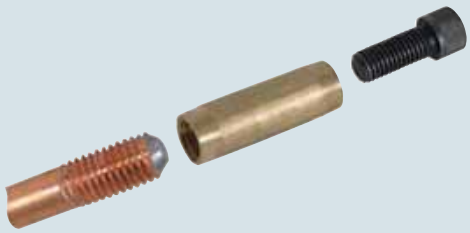




Material	Diameter	Weight	PU pc(s)	Part No.
A MODEL 16 mm diameter coupling round version				
Ms	5/8"UNC, approx. 16 mm	0.11 kg	10	DCP16
B MODEL 16 mm hexagonal coupling for earth rods				
Ms	5/8"UNC, approx. 16 mm, 16 hexagon	0.13 kg	10	DCP16H

Driving Stud

Driving studs are made in high tensile steel.



Material	Thread Diameter	Weight	PU pc(s)	Part No.
A MODEL				
HT St	5/8"UNC, approx. 16 mm	0.08 kg	10	**DS16**

Solid Copper Earth Rods

C101 BSEN 50164-2 BS 7430

Solid copper earth rods are made from hard drawn high conductivity copper to BS2874 C101. For use in highly corrosive soil conditions.

Material	Rod Length	Diameter	Weight	PU pc(s)	Part No.
A MODEL Solid copper earth rod					
Cu	1200 mm	15 mm	1.88 kg	5	DSC1512

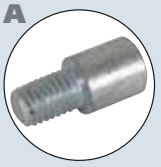
Stainless Steel Earth Rods

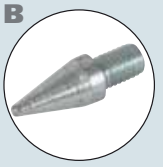
Stainless steel earth rods for use in highly corrosive areas.

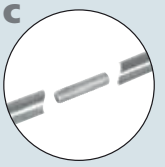
Material	Rod Length	Diameter	Weight	PU pc(s)	Part No.
A MODEL Stainless steel earth rod					
StSt	1200 mm	16 mm	1.87 kg	5	DSR16

Driving Studs and Spikes

For solid copper earth rods and stainless steel earth rods

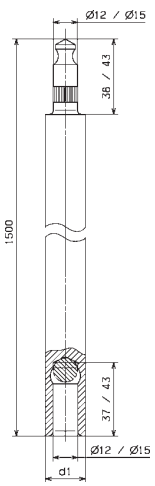


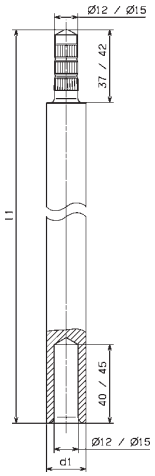


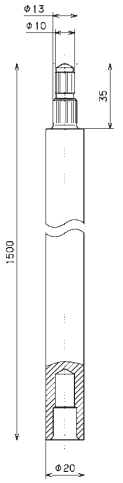


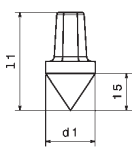
Material	Thread Diameter	Weight	PU pc(s)	Part No.
A MODEL Stainless steel driving stud				
StSt	15 mm	0.02 kg	10	DSC15
B MODEL Stainless steel spike				
StSt	15 mm	0.02 kg	10	DSK15
C MODEL Coupling dowel for solid copper and stainless steel earth rods				
StSt		0.02 kg	10	DSC00

Earth Rods





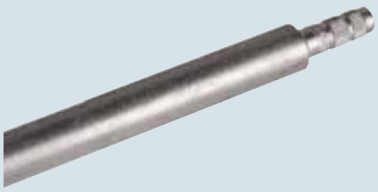


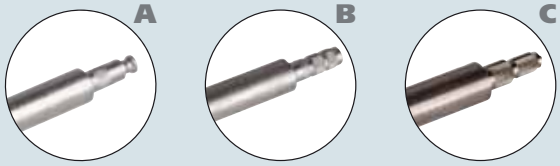


For installing earth termination systems for down conductor systems or transformer stations

Characteristics:

- No thickening of the cross section at the coupling joint
- Self-closing coupling
- Corrosion resistance
- Easy storage and transport
- Universally applicable according to local ground conditions
- Constant resistance values
- Easy installation with vibrating hammer





Material	Material No.	Standard	Rod Length (l1)	Diameter Ø (d1)	Cu layer	PU pc(s)	Part No.
A MODEL Type S, with lead ball in the coupling							
St/tZn		DIN EN 50164-2	1500 mm	20 mm		6	**620 150**
St / Cu			1500 mm	20 mm	min. 0.3 mm	6	**619 157**
St/tZn		DIN EN 50164-2	1500 mm	25 mm		6	**625 150**
B MODEL Type Z, with triple knurled tenon (coupling with especially high tensile strength)							
St/tZn		DIN EN 50164-2	1000 mm	20 mm		6	**620 101**
St/tZn		DIN EN 50164-2	1500 mm	20 mm		6	**620 151**
St/tZn		DIN EN 50164-2	1000 mm	25 mm		6	**625 101**
St/tZn		DIN EN 50164-2	1500 mm	25 mm		6	**625 151**
C MODEL Type AZ, with offset knurled tenon							
StSt (V4A)	1.4571	DIN EN 50164-2	1500 mm	20 mm		6	**620 902**

For further details about application and installations, please see installation instructions No. 1014.

Driving Spike

For driving down the first earth rod

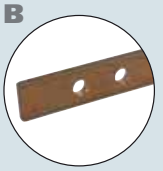
Material	Type	Dimension (d1 x l1)	PU pc(s)	Part No.
MCI/tZn	for earth rods Ø20 mm	20x40 mm	100	**620 001**
MCI/tZn	for earth rods Ø25 mm	25x45 mm	50	**625 001**

Earth Bars for use in Earth Pit

25 x 6 mm, 5 hole copper earth bars for fitting inside earth pits, for connecting of multiple earths.

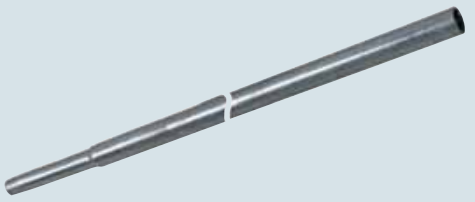
A

B



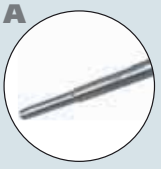
Material	Hole size	Weight	PU pc(s)	Part No.
A MODEL 5 hole for PIT2				
Cu	M10	0.49 kg	1	PIT5
B MODEL 5 hole for PIT3				
Cu	M10	0.49 kg	1	PIT6

Tubular Earth Electrode



Light unit, for installation of earth-termination systems for down conductors

A



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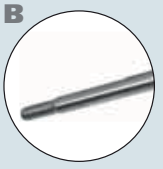
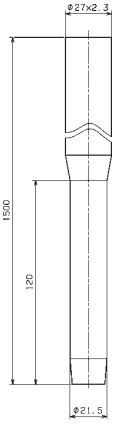


Material	Standard	Rod Length (l1)	Diameter Ø (d1)	PU pc(s)	Part No.
A MODEL Type Steel					
St/tZn	DIN EN 50164-2	1500 mm	27 mm	6	640 150
B MODEL Type StSt					
StSt (V4A)	DIN EN 50164-2	1500 mm	25 mm	6	649 150

For further information on application and installation please see also installation instructions No. 1515.

A



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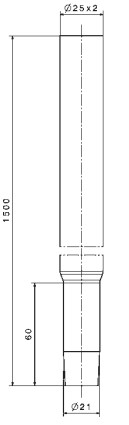
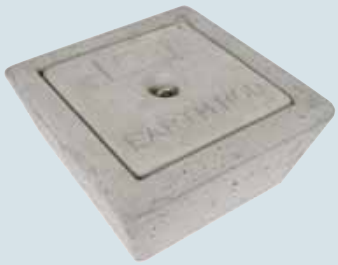
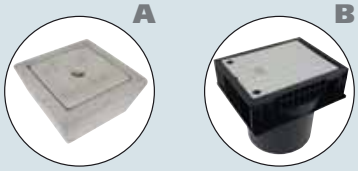


Earth Pit

Earth rod inspection pits

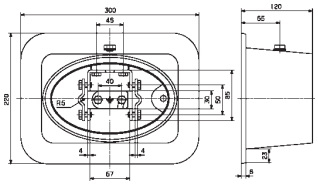




Material	Dimensions	Weight	Part No.
A MODEL			
Concrete earth pit with inspection lid			
Concrete	280 x 280 x 130 mm	17.00 kg	**PIT2**
B MODEL			
Plastic earth pit with lockable by allen key inspection lid			
Plastic	250 x 195 x 220 mm	1.20 kg	**PIT3**

UF Inspection Housing

A



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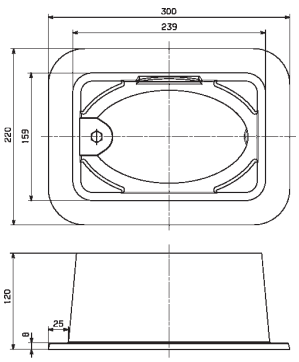
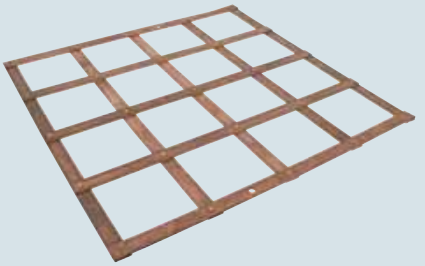


For underfloor mounting

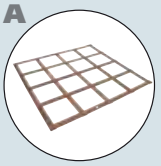
Material	Colour	Dimension (l x w x h)	Clamping range Rd / Fl	Standard	Max. load	PU pc(s)	Part No.
A MODEL							
With test joint, no bottom							
GCI	black	230x150x120 mm	7-10 / 30-40 mm		40 kN	1	**549 001**
B MODEL							
Without test joint, no bottom							
GCI	black	230x150x120 mm		DIN EN 50164-5	40 kN	1	**549 000**
C MODEL							
Plastic earth pit with lockable by allen key inspection lid							
Plastic		197 x 197 x 204 mm	with test joint	DIN EN 50164-5		1	**549 050**
Plastic		197 x 197 x 204 mm	without test joint	DIN EN 50164-5		1	**549 051**

Earth Plates and Lattice Earth Mats

BS EN 13601 / BS 2814 C101



A



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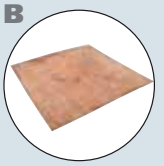


Material	Dimensions	Weight	PU pc(s)	Part No.
A MODEL Earth plate lattice copper				
Cu	600 x 600 x 3	4.0 kg	1	EPL663
Cu	900 x 900 x 3	7.2 kg	1	EPL993
B MODEL Earth plate solid copper				
Cu	600 x 600 x 1.5	5.0 kg	1	EPS661
Cu	900 x 900 x 1.5	11.2kg	1	EPS991
Cu	600 x 600 x 3	9.7 kg	1	EPS663
Cu	900 x 900 x 3	22.0 kg	1	EPS993

Conductive Concrete / Moisture Retaining Clay

Marconite®
By adding marconite to cement in place of sand a concrete which is highly conductive is formed. This helps to lower the resistance of earth rods, plates etc.

Bentonite is a moisture retaining clay which when used as a backfill with earth rods or plates will reduce soil resistivity by retaining moisture around the earth rod.

DEHNIT is a special clay which will absorb large amounts of water and swell to many times its original dry volume. In compliance with EN 50164-7 (VDE 0185-207) requirements.

A

B

C

Weight	Mixing ratio	Standard	PU pc(s)	Part No.
A MODEL Marconite				
25 kg			1	**CC1**
B MODEL Bentonite				
20 kg			1	**CC2**
C MODEL Special clay DEHNIT				
25 kg	5 parts sand / 1 part DEHNIT / 0,5 part water	DIN EN 50164-7	1	**573 000**

Application notes regarding the benefits and use of MARCONITE, BENTONITE and DEHNIT soil conditioning agents for use in earthing systems.

Introduction

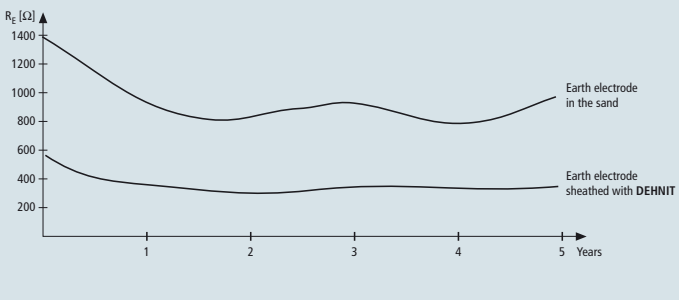
The resistance achieved by an earth system is determined by several factors. Most important amongst these is the amount of earth electrode surface area in contact with the ground and the resistivity of the ground in the immediate location of the earth nest.
Resistivity can either be measured by carrying out a soil resistivity test or approximate figures can be obtained by reference to "ground type resistivity tables" which can be found in most national earthing standards (such as BS 7430:1998, Code of practice for Earthing).
In situations where a low earth resistance is required, and is difficult to obtain, a soil conditioning agent can be used to advantage, typical use being in boreholes or to surround earth plates and lattice mats. In both cases good conductivity must be ensured between the electrode and the surrounding ground.
If the resistivity of the ground is too high to achieve the desired system resistance, soil conditioning agents can be used to obtain a better ground contact and lower resistivity.

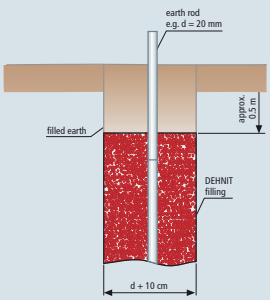
By adding **MARCONITE** instead of the sand and aggregate used in a standard concrete mix a highly conductive concrete is formed.
Used as a backfill material around the earth electrodes, it provides a conductive medium increasing the surface area of the electrode and ensuring a highly conductive path between the earth electrode and the surrounding ground. Being a concrete it provides a permanent solution.

BENTONITE is a moisture retaining clay consisting of sodium montmorillonite.
By mixing BENTONITE with water the resultant slurry will swell to many times its original dry volume.
When used as a backfill material, within a borehole earth system, it will continue to absorb water from the surrounding soil thus helping provide a stable earth resistance. This is also true when the clay is used to surround earth plates and lattice mats
It strongly adheres to the earth electrodes ensuring good electrical conductivity between the electrodes and surrounding ground.

DEHNIT is a special clay which will absorb large amounts of water and swell to many times its original dry volume. The principle of using DEHNIT, for an earth system, is to mix the fine-grained DEHNIT with water and sand and use the resulting clay mixture to sheathe the earthing electrodes. It can be used in boreholes or to surround earth plates and lattice mats. The sheath formed is highly conductive and enlarges the surface of the earthing electrode resulting in a far larger area of electrode being in contact with the surrounding ground. Compared with common earthing procedures without sheathing - the DEHNIT principle offers three important advantages:
– A much lower resistivity can be achieved even in situations where good electrode to surrounding ground contact is not possible.
– Compared with earthing procedures without sheathing, earth resistance up to 50 % lower can be achieved without the need for additional earth electrodes, thus resulting in cost savings for materials and labour.
– An earth resistance is created that is largely independent from the temperature and weather and remains fairly constant throughout its life. The final earth resistance will be obtained after approximately three to four months. It will be approximately half to one third of the Ohmic value measured immediately after filling the borehole with DEHNIT.

Usage: Assuming a 10cm diameter borehole 2 kg of DEHNIT is required per metre of depth.
For holes exceeding 9 m depth a larger diameter of the borehole is required.

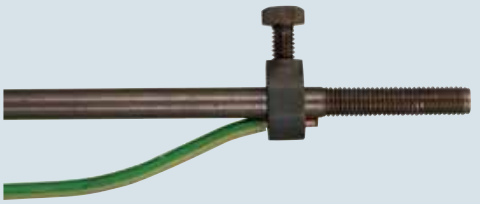




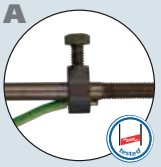
MARCONITE® is a registered trademark of Marconi Communications Ltd.

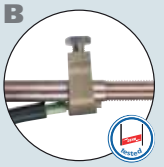
Rod to Cable Clamp

BS EN 50164-1, CZ 112 for clamping standard earth rods to round conductors or cables



Made from high strength brass alloys.

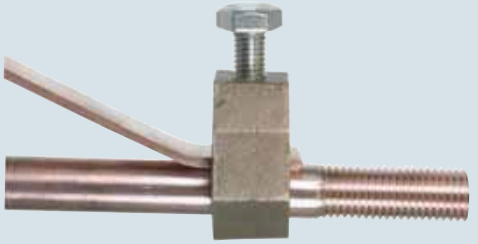




Material	Clamping range	Weight	PU pc(s)	Part No.
A MODEL				
Gun metal	Rod 9.5 mm (min.) – 16 mm (max.)			
	Conductor 10 mm^2 (min.) – 70 mm^2 (max.)	0.07 kg	10	**RCC1**
B MODEL				
Gun metal	Rod 20 mm Conductor 95 mm^2	0.09 kg	10	**RCC2**

Earth Rod Clamp

For connecting standard earth rods to 25 x 3 mm copper strip



Made from high strength gun metal.

Material	Clamping range	Weight	PU pc(s)	Part No.
A MODEL				
Gun metal	For 16 mm rod and 25 x 3 mm tape	0.15 kg	10	**RTA1**

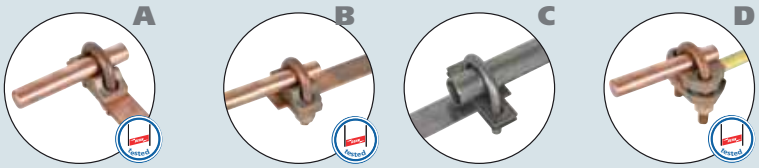
Earth Rod to Cable Lug Clamp (Split Clamp)

Made from gun metal castings to BS1400

Material	Dimensions	Weight	Part No.
A MODEL			
Gun metal	16 mm threaded	0.34 kg	**SCT16**
Gun metal	9.5 mm plain	0.08 kg	**SCP95**

"U" Bolt Rod Clamp

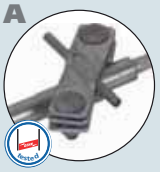
Universal clamp for round to flat conductors can also be used on re-bars.

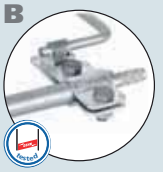


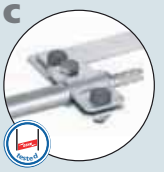
Material	Clamping range	Weight	PU pc(s)	Part No.
A MODEL				
Gun metal	16 mm to 25 mm	0.2 kg	10	**UCR305/315**
B MODEL Allows 25 x 3 mm tape to be connected via additional plate				
Gun metal	16 mm to 25 mm	0.26 kg	10	**UCR320**
C MODEL Allows 25 x 3 mm tape to be connected via additional plate				
StSt	35 mm	0.19 kg	10	**UCR340SS**
D MODEL Rod to cable clamp (type GUV)				
Gun metal	70 - 185 mm2	0.39 kg	10	**UCR70**

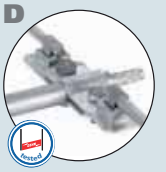
Connecting Clamp

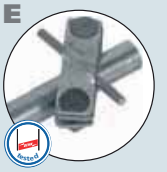
For connecting round conductors, cables and flat conductors to earth rods







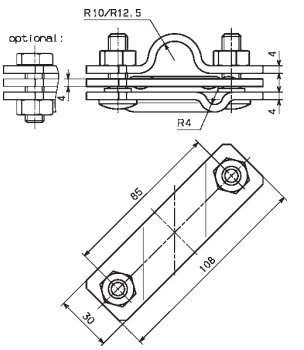




Material	Clamping range Rd / Fl	Unit for earth rods	Screw	Screw/Nut Material	Standard	I_k (50 Hz) t=1 s Temp. max. 300°C	PU pc(s)	Part No.
A MODEL Also for use with uncut earth conductors								
St/tZn	7-10 / -40 mm	Ø20 mm	M10x35 mm	St/tZn	DIN EN 50164-1	18 kA	20	**620 015**
Cu	7-10 / -40 mm	Ø20 mm	M10x30 mm	StSt	DIN EN 50164-1	30 kA	20	**620 017**
StSt (V4A)	7-10 / -40 mm	Ø20 mm	M10x30 mm	StSt (V4A)	DIN EN 50164-1	8 kA	20	**620 915**
St/tZn	7-10 / -40 mm	Ø25 mm	M10x35 mm	St/tZn	DIN EN 50164-1		20	**625 015**
StSt (V4A)	7-10 / -40 mm	Ø25 mm	M10x30 mm	StSt (V4A)	DIN EN 50164-1		20	**649 015**
B MODEL Connection on one side with KS connector								
St/tZn	7-10 mm	Ø20 mm	M10x25 mm	StSt	DIN EN 50164-1		20	**620 011**
St/tZn	7-10 mm	Ø25 mm	M10x25 mm	StSt	DIN EN 50164-1		20	**625 011**
C MODEL Connection on one side								
St/tZn	- - / -40 mm	Ø20 mm	M10x25 mm	StSt	DIN EN 50164-1		20	**620 021**
St/tZn	- - / -40 mm	Ø25 mm	M10x25 mm	StSt	DIN EN 50164-1		20	**625 021**
D MODEL Connection on both sides with KS connectors (St/tZn)								
St/tZn	7-10 mm	Ø20 mm	M10x25 mm	StSt	DIN EN 50164-1		10	**620 012**
St/tZn	7-10 mm	Ø25 mm	M10x25 mm	StSt	DIN EN 50164-1		10	**625 012**
E MODEL Especially for use with tubular earth electrodes								
St/tZn	7-10 / -40 mm	Ø27 mm	M10x35 mm	St/tZn	DIN EN 50164-1		20	**640 015**

I_k = short-circuit current; t = time

A



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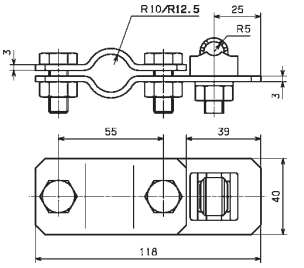

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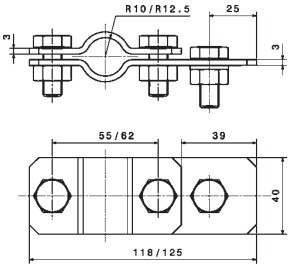

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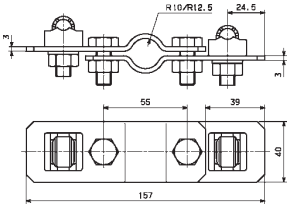
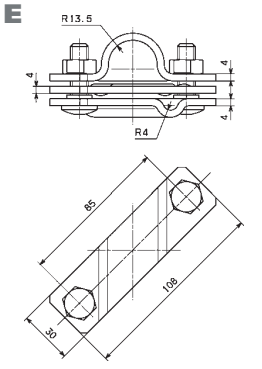
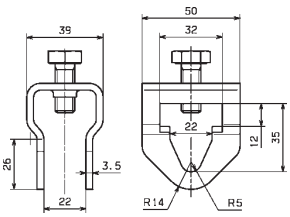


E



Single-Screw Clamp

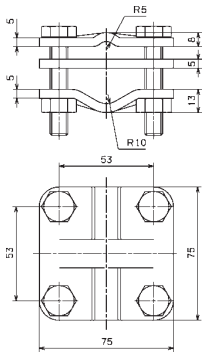


For connecting round, tape or stranded conductors to earth rods.
Allows for cross and parallel connection.

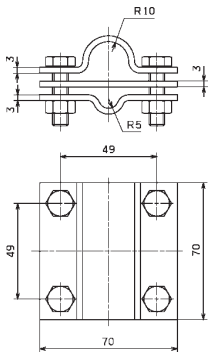
Material	Clamping range Rd / Fl	Clamping range Cable	For earth rods	Screw	Screw Material	PU pc(s)	Part No.
A MODEL							
St/tZn	10 / -30x4 mm	70 mm²	Ø20 mm	M10x25 mm	StSt (V2A)	25	**630 120**
StSt (V4A)	10 / -30x4 mm	70 mm²	Ø20 mm	M10x25 mm	StSt (V4A)	25	**630 129**

Connecting Clamp

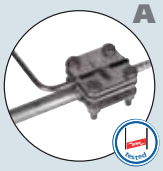
A

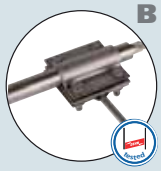


B



For cross and parallel connection of round, tape or stranded conductors to earth rods.





Material	Clamping range Rd / Fl	Clamping range Cable	Screw	Screw/Nut Material	PU pc(s)	Part No.
A MODEL For earth rods Ø20-30 mm						
St/tZn	8-12.5 / -40 mm	50-95 mm²	M10x55 mm	StSt (V2A) mm	20	**610 010**
B MODEL For earth rods Ø20 mm						
StSt (V4A)	7-10 / -40 mm	35-70 mm²	M8x30 mm	StSt (V4A) mm	25	**610 020**

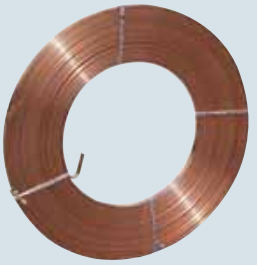
Down Conductor

Earth Conductor in
Concrete Foundation

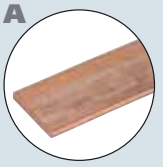
Roof Termination

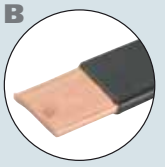
High Conducting Copper Strip

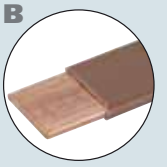
to BS EN 13601, Copper C101 soft annealed

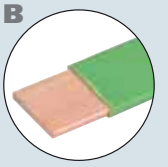


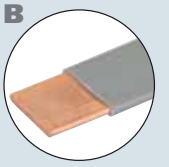
For use within in Faraday cage system as catching and down conductor







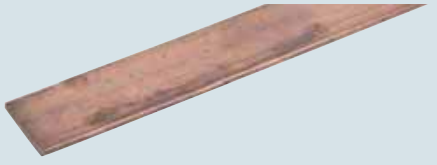




Material	Colour	Dimensions	Outside Dimensions	Weight/m	Coil size	Part No.
A MODEL Bare copper strip						
Cu		12.5 x 1.5 mm		0.17 kg	25 m	TC1215
Cu		12.5 x 3 mm		0.33 kg	25 m	TC1230
Cu		20 x 1.5 mm		0.27 kg	25 m	TC2015
Cu		20 x 3 mm		0.53 kg	25 m	TC2030
Cu		25 x 1.5 mm		0.33 kg	25 m	TC2515
Cu		25 x 3 mm		0.67 kg	25 m	TC2530
Cu		25 x 4 mm		0.89 kg	25 m	TC2540
Cu		25 x 6 mm		1.33 kg	25 m	TC2560
Cu		31 x 6 mm		1.65 kg	25 m	TC3160
Cu		38 x 5 mm		1.69 kg	25 m	TC3850
Cu		38 x 6 mm		2.03 kg	25 m	TC3860
Cu		50 x 3 mm		1.33 kg	25 m	TC5030
Cu		50 x 6 mm		2.66 kg	25 m	TC5060
B MODEL PVC coated copper strip						
Cu / PVC	black	25 x 3 mm	28 x 6 mm	0.77 kg	25 m	TPBL253
Cu / PVC	brown	25 x 3 mm	28 x 6 mm	0.77 kg	25 m	TPBN253
Cu / PVC	green	25 x 3 mm	28 x 6 mm	0.77 kg	25 m	TPGN253
Cu / PVC	green and yellow	25 x 3 mm	28 x 6 mm	0.79 kg	25 m	TPGNY253
Cu / PVC	grey	25 x 3 mm	28 x 6 mm	0.77 kg	25 m	TPGY253
Cu / PVC	stone	25 x 3 mm	28 x 6 mm	0.77 kg	25 m	TPST253
Cu / PVC	white	25 x 3 mm	28 x 6 mm	0.77 kg	25 m	TPWH253

Hard Drawn Copper Bar

to BS 2874, C101/C103

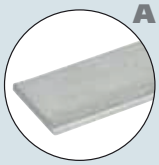


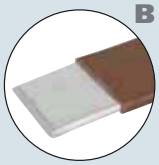
Material	Dimensions	Weight/m	Part No.
A MODEL Hard drawn copper bar supplied in 2 meter lengths			
Cu	25 x 3 mm	0.67 kg	HDB253
Cu	25 x 6 mm	1.33 kg	HDB256
Cu	38 x 6 mm	2.03 kg	HDB386
Cu	50 x 6 mm	2.67 kg	HDB506
Cu	50 x 10 mm	4.45 kg	HDB501

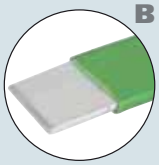
Aluminium Strip

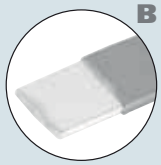
to BS 2898-1350

For use within in Faraday cage system as catching and down conductor







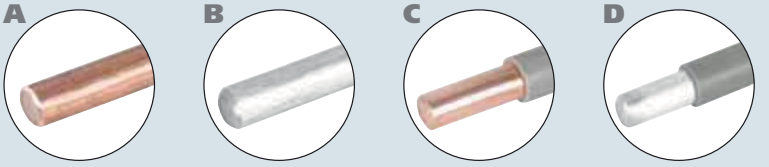


Material	Colour	Dimensions	Weight/m	Coil size	Part No.
A MODEL Bare aluminium strip					
Al		19 x 2 mm	0.10 kg	50 m	AT192
Al		25 x 3 mm	0.21 kg	50 m	AT253
B MODEL PVC covered aluminium strip					
Al / **PVC**	black	25 x 3 mm	0.30 kg	50 m	APBL253
Al / **PVC**	brown	25 x 3 mm	0.30 kg	50 m	APBN253
Al / **PVC**	green	25 x 3 mm	0.30 kg	50 m	APGN253
Al / **PVC**	grey	25 x 3 mm	0.30 kg	50 m	APGY253
Al / **PVC**	stone	25 x 3 mm	0.30 kg	50 m	APST253
Al / **PVC**	white	25 x 3 mm	0.30 kg	50 m	APWH253

Round Conductor

BS 2898-1350

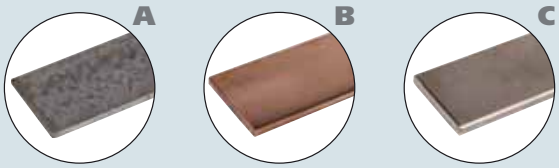
For use within in Farady cage system as catching and down conductor



Material	Colour	Condcutor Diameter	Outside Diameter	Weight/m	Coil size	Part No.
A MODEL Bare copper round conductor						
Cu		8 mm		0.44 kg	20 / 50 m	CSC08
B MODEL Bare aluminium round conductor						
Al		8 mm		0.12 kg	50 m	CSA08
C MODEL PVC coated copper round conductors						
Cu / PVC	black	8 mm	10 mm	0.49 kg	50 m	CSBL
Cu / PVC	brown	8 mm	10 mm	0.49 kg	50 m	CSBN
Cu / PVC	grey	8 mm	10 mm	0.49 kg	50 m	CSGY
Cu / PVC	stone	8 mm	10 mm	0.49 kg	50 m	CSST
Cu / PVC	white	8 mm	10 mm	0.49 kg	50 m	CSWH
D MODEL PVC coated aluminium round conductors						
Al / PVC	black	8 mm	10 mm	0.18 kg	50 m	ASBL
Al / PVC	brown	8 mm	10 mm	0.18 kg	50 m	ASBN
Al / PVC	grey	8 mm	10 mm	0.18 kg	50 m	ASGY
Al / PVC	stone	8 mm	10 mm	0.18 kg	50 m	ASST
Al / PVC	white	8 mm	10 mm	0.18 kg	50 m	ASWH

Tape Conductor

For use in earth-termination and lightning protection systems as well as for ring equipotential bonding according to EN 50164-2 (VDE 0185 Part 202).



Material	Width	Thickness	Cross section	Characteristics Material No.	Standard	Approx. ring weight/length	Part No.
A MODEL							
Steel tape, zinc coating = 70 µm mean value (approx. 500 g/m²)							
St/tZn	20 mm	2.5 mm	50 mm²		DIN EN 50164-2	40 kg / 100 m	**810 225**
St/tZn	30 mm	3.5 mm	105 mm²		DIN EN 50164-2	42 kg / 50 m	**810 335**
St/tZn	30 mm	3.5 mm	105 mm²		DIN EN 50164-2	21 kg / 25 m	**852 335**
St/tZn	30 mm	4 mm	120 mm²		DIN EN 50164-2	50 kg / 52 m	**810 304**
St/tZn	40 mm	4 mm	160 mm²		DIN EN 50164-2	50 kg / 40 m	**810 404**
St/tZn	40 mm	5 mm	200 mm²		DIN EN 50164-2	50 kg / 30 m	**810 405**
B MODEL							
Copper tape							
Cu	20 mm	2.5 mm	50 mm²		DIN EN 50164-2	45 kg / 100 m	**831 225**
C MODEL							
Stainless steel tape							
According to DIN VDE 0151, Material No. 1.4571 (V4A) has to be used for stainless steel in soil.							
StSt	30 mm	3.5 mm	105 mm²	1.4301	DIN EN 50164-2	21 kg / 25 m	**860 925**
StSt	30 mm	3.5 mm	105 mm²	1.4301	DIN EN 50164-2	50 kg / 60 m	**860 900**
StSt	30 mm	3.5 mm	105 mm²	1.4571	DIN EN 50164-2	21 kg / 25 m	**860 325**
StSt	30 mm	3.5 mm	105 mm²	1.4571	DIN EN 50164-2	50 kg / 60 m	**860 335**

Tape conductors of other dimensions and materials available on request.

Conductor Holders

DC Tape Clip

Slate Hold Fast

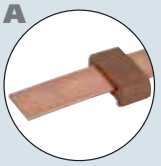
DC Tape Clip

Roof Conductor Holder

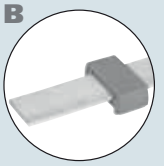
Non-metallic DC Tape Clip

Clips manufactured using only the highest quality polypropylene UV-stabilised.

A



B



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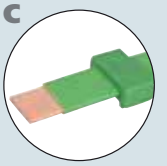
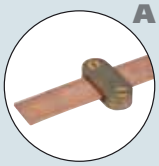
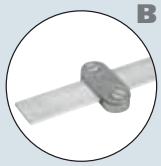


Material	Colour	Weight	PU pc(s)	Part No.
A MODEL Clip for bare copper tape				
PP	brown	0.01 kg	100	**DCBN**
B MODEL Clip for bare aluminium tape				
PP	grey	0.01 kg	100	**DCGY**
C MODEL Clip for PVC covered 25 x 3 mm tape				
PP	black	0.01 kg	100	**DCPBL**
PP	brown	0.01 kg	100	**DCPBN**
PP	green	0.01 kg	100	**DCPGN**
PP	grey	0.01 kg	100	**DCPGY**
PP	stone	0.01 kg	100	**DCPST**
PP	white	0.01 kg	100	**DCPWH**

DC Tape Clip

Made from high quality copper, aluminium, alloy or brass.

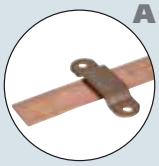


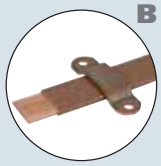


Material	Clip size	Weight	PU pc(s)	Part No.
A MODEL				
Gun metal	20 x 3 mm	0.07 kg	50	DCT203
Gun metal	25 x 3 mm	0.06 kg	50	DCT253
Gun metal	25 x 4 mm	0.07 kg	50	DCT254
Gun metal	25 x 6 mm	0.08 kg	50	DCT256
Gun metal	31 x 3 mm	0.09 kg	50	DCT313
Gun metal	31 x 6 mm (will fit 25 x 3 PVC coated type)	0.10 kg	50	DCT316
Gun metal	38 x 3 mm	0.12 kg	50	DCT383
Gun metal	38 x 5 mm	0.12 kg	50	DCT385
Gun metal	38 x 6 mm	0.14 kg	50	DCT386
Gun metal	50 x 3 mm	0.15 kg	50	DCT503
Gun metal	50 x 4 mm	0.15 kg	50	DCT504
Gun metal	50 x 6 mm	0.16 kg	50	DCT506
B MODEL				
Al	25 x 3 mm	0.02 kg	50	DCA253

Tape Clip

For use with lightning conductors.



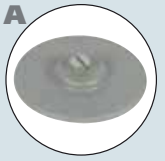


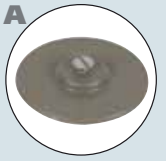
Material	Weight	PU pc(s)	Part No.
A MODEL For use with bare copper flat tape 25 x 3 mm			
Cu	0.02 kg	25	TCC253
B MODEL For use with PVC covered copper tape 25 x 3 mm			
Cu	0.10 kg	25	TCC316

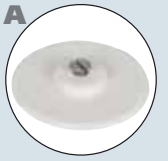
Adhesive Base

Adhesive bases can be used in conjunction with non metallic DC clips. The adhesive bases can then be secured onto surfaces such as metal.
However metal or alternative surfaces must be thoroughly clean, dry and dust free.
We recommend our cleaning solution to prepare the surface part number 297 199.

A 

A 

A 

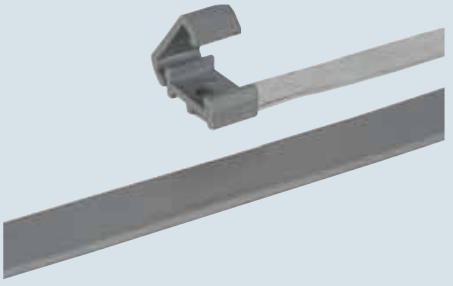
A 

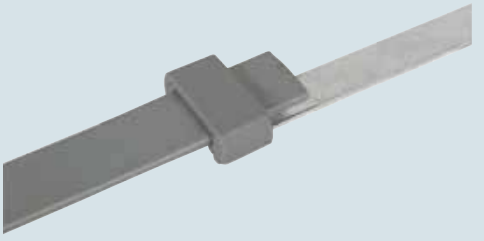
B 

Material	Colour	Weight	PU pc(s)	Part No.
A MODEL Adhesive base				
P	black	0.10 kg	50	**SABL1**
P	brown	0.10 kg	50	**SABN1**
P	grey	0.10 kg	50	**SAGY1**
P	stone	0.10 kg	50	**SAST1**
P	white	0.10 kg	50	**SAWH1**
B MODEL Cleaning fluid recommended for preparing surfaces for adhesive bases				
Cleanness 99.1 - 99.9 %		0.86 kg	1	**297 199**

Slate Holdfast

for flat or round conductors

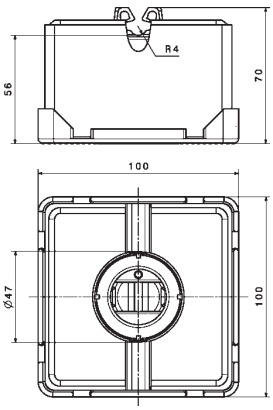




Material	Dimensions	Colour	Weight	PU pc(s)	Part No.
A MODEL For fixing lightning conductor on to a slate or concrete title roof					
Al / PP		all colours - please state when ordering	0.05 kg	10	**SHF**

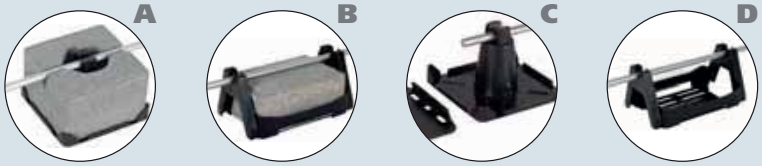
Roof Conductor Holder

for flat roofs



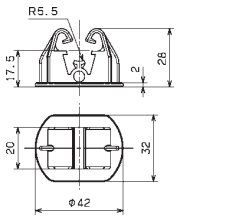
For fixing solid round and strip conductors on flat roofs
Two-part unit, consisting of

- conductor holder with base plate made of weather-resistant plastic material, UV-stabilised
- snap-on freeze-proof concrete block in accordance with EN 1338 for paving stones
- freeze resistance tested in accordance with alternating freeze-thaw test according to EN 1926
- concrete block and base plate, separately recyclable



Conductor leading	CH Material	CH Colour	CH Rd	Block	Weight	Dimension (l x w x h)	PU pc(s)	Part No.
A MODEL With single conductor holder Type FB								
loose	**plastic**	black	8 mm	**concrete (C35/45)**	1 kg	100x100x70 mm	10	**253 015**
B MODEL With double conductor holder Type FB2								
loose	**plastic**	black	8 mm	**concrete (C35/45)**	1 kg	141x86x70 mm	10	**253 050**
fixed	**plastic**	black	8 mm	**concrete (C35/45)**	1 kg	141x86x70 mm	10	**253 060**
C MODEL With single conductor holder Type KF, for clamping into roofing strips (up to 2.5 mm thick), which are welded or glued with the roof sheeting								
loose	**plastic**	black	8 mm			110x105x75 mm	100	**253 030**
D MODEL With double conductor holder Type KF2, for clamping into roofing strips (up to 5 mm thick), which are welded or glued with the roof sheeting								
loose	**plastic**	black	8 mm			141x86x70 mm	100	**253 051**

For further details on the application of roof conductor holder Type KF and KF2 (Part Nos. 253 030 and 253 051) please see installation instructions No. 1251.
Plastic top Type KF, Part No. 253 016, separately available on request.

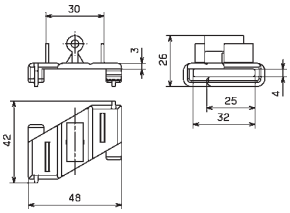


Adapter/Holder for FB type

For snapping onto roof conductor holders for Rd 10 mm conductors,loose conductor leading

Note: Adapter for Rd 6 mm conductors available on request

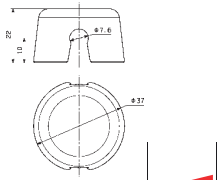
CH Rd	Material	Colour	PU pc(s)	Part No.
10 mm	**plastic**	black	50	**253 023**



Adapter/Holder for FB type

For snapping onto roof conductor holders for flat conductors 30 x 4 mm, loose conductor leading

CH Fl	Material	Colour	PU pc(s)	Part No.
30 mm	**plastic**	black	50	**253 021**



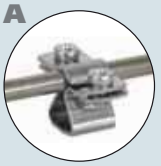
Clamp for FB type

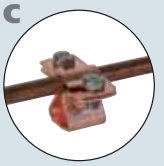
For snapping onto roof conductor holders, for additional fixing of the holder to the installed air-termination conductor at inclined roofs

CH Rd	Material	Colour	PU pc(s)	Part No.
8 mm	**plastic**	black	50	**253 025**

DEHNhold Conductor Holder

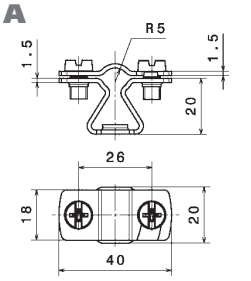
For fixing of round conductors with slotted cleat, fixed conductor leading.
For use with different materials e.g. Al, StSt, St/tZn and Cu.





Material Conductor holder	CH Rd	CH Fl	CH Height	CH Thread	Screw	Plastic dowel	PU pc(s)	Part No.
A MODEL With female thread								
StSt	8-10 mm	20 mm	20 mm	M8			50	274 110
B MODEL With female thread, premounted with screw, plastic base and dowel								
StSt	8-10 mm	20 mm	20 mm	M8	5x50 mm	Ø8x40 mm	50	274 160
C MODEL With female thread								
StSt copper plated	8-10 mm	20 mm	20 mm	M8			50	274 117
D MODEL With female thread, premounted with screw (StSt), plastic base and dowel								
StSt copper plated	8-10 mm	20 mm	20 mm	M8	5x50 mm	Ø8x40 mm	50	274 167

A



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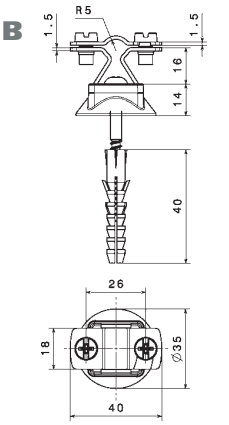
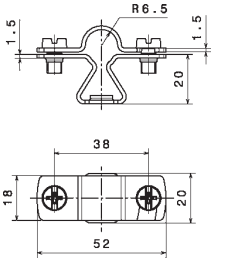


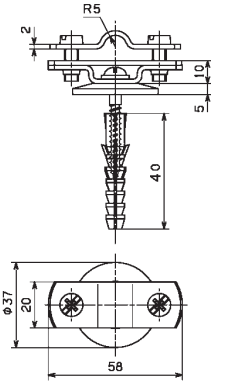
C



Conductor Holder

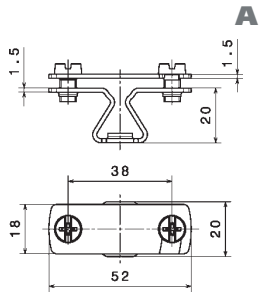
with cleat - flat design

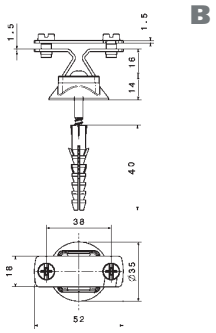
Twin screw cleat with M6 screws, for round and flat conductors



CH Rd	CH Fl	CH Height	CH Material	Screw	Plastic dowel	PU pc(s)	Part No.
Premounted with wood screw, with plastic cover plate (grey) and dowel							
7-10 mm	30 mm	10 mm	StSt	5x50 mm	Ø8x40 mm	50	286 819

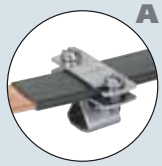
DEHNhold Strip Holder

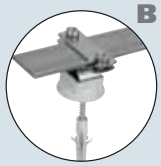




For fixing of flat conductors with slotted cleat, fixed conductor leading.

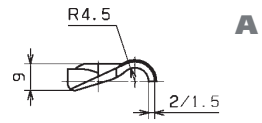
For use with different materials e.g. Al, StSt, St/tZn and Cu.

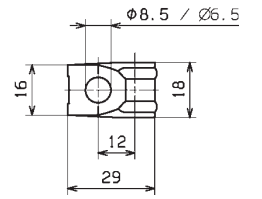


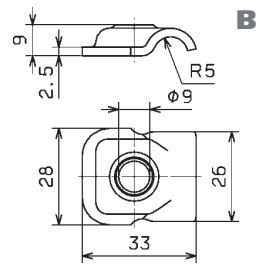


Material Conductor	CH holder	Fl	CH Rd	CH Height	CH Thread	Screw	Plastic dowel	PU pc(s)	Part No.
A MODEL									
Also for bare and PVC coated flat conductors, with female thread									
StSt	30 x 10 mm		6 mm	20 mm	M6 x 14 mm			50	274 030
B MODEL									
With female thread, premounted with screw, plastic base and dowel									
StSt	30 x 10 mm		6 mm	20 mm	M6 x 14 mm	5x50 mm	Ø8x40 mm	50	274 230

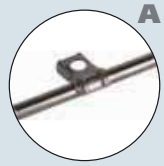
Conductor Holder Cleat

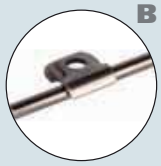






e.g. for flush mounting





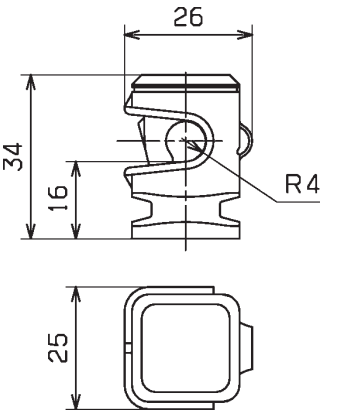
CH material	CH Rd	Bore Ø	PU pc(s)	Part No.
A MODEL				
DEHNQUICK single-screw cleat with flexible clamping range and fixed conductor leading				
St/tZn	6-10 mm	8.5 mm	50	**202 000**
StSt	6-10 mm	8.5 mm	50	202 001
StSt	6-10 mm	6.5 mm	100	202 169
B MODEL				
Single-screw cleat for clamping frames with flexible clamping range and fixed conductor leading				
St/tZn	6-10 mm	9 mm	100	**390 110**
StSt	6-10 mm	9 mm	100	390 119

DEHNsnap Conductor Holder

Both versions 16 mm in height.

36 mm available upon request.

Synthetic support system with loose conductor leading simple installation:
– insert the conductor on one side
– press in the cap



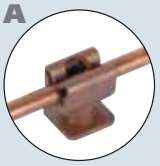
Material	Colour	Weight	PU pc(s)	Part No.
A MODEL For bare 8 mm round conductor holder				
PA	brown	0.008 kg	50	**204 007**
PA	grey	0.008 kg	50	**204 001**

Push-in Plastic Clip

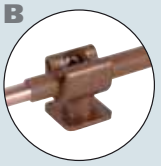
Synthetic support system with loose conductor leading simple installation:
– insert the conductor on one side
– press in the cap

Availabe in several colours.

A



B

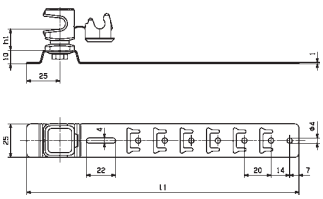


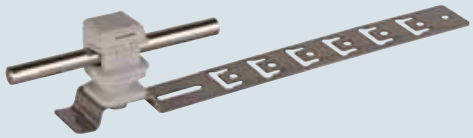
Material	Colour	Weight	PU pc(s)	Part No.
A MODEL For bare 8 mm round lightning conductor				
PP	brown	0.01 kg	100	**DCBN8**
PP	grey	0.01 kg	100	**DCGY8**
B MODEL For PVC covered 10 mm round conductors				
PP	black	0.01 kg	100	**DCBL10**
PP	brown	0.01 kg	100	**DCBN10**
PP	grey	0.01 kg	100	**DCGY10**
PP	stone	0.01 kg	100	**DCST10**
PP	white	0.01 kg	100	**DCWH10**

Roof Conductor Holder

with embossed brace for roof surfaces

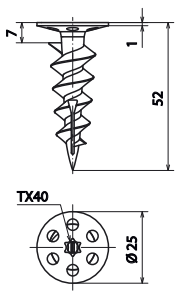
For fixing air-termination conductors and down conductor systems

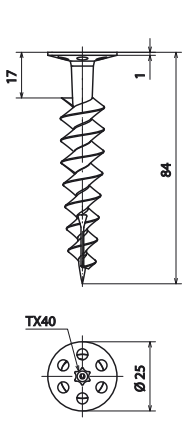




RCH material	Length	Colour	CH material	Weight	PU pc(s)	Part No.
A MODEL						
StSt	8 mm clip 205 mm tail	brown	PA	0.05 kg	10	204 921
StSt	8 mm clip 205 mm tail	grey	PA	0.05 kg	10	204 149

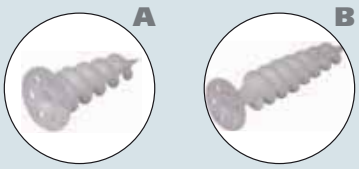
Dowel for Rigid Foam Plates





For fixing conductor and rod holders in external thermal insulation composite systems

Drive with star drive screw driver (TX40)
For use with wood screws Ø4.5 mm
Mounting with wood screws Ø4.5 mm



Material	Thickness of insulating material	Length of Engagement	Working load of Styrofoam PS20	Working load of rigid foam Plates	PU pc(s)	Part No.
A MODEL Short type						
PA	60 mm	50 mm	35 N	60 N	50	**200 600**
B MODEL Long type						
PA	100 mm	85 mm	60 N	85 N	50	**200 601**

For further details, please see also installation instructions No. 1459.

Square Junction Clamp

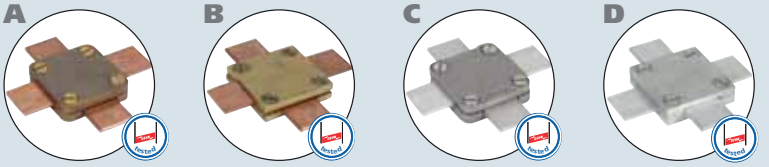
Bimetal Joint

B Bond

Square Tape Clamp

BS EN 50164-1

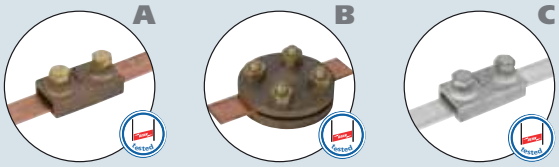
For connection of flat lightning conductors is straight crossovers on T-Junctions.



Material	Dimension	Weight	Part No.
A MODEL			
For above ground connections of copper tape			
Gun metal	for 25 x 3 mm tape	0.22 kg	**STC253**
Gun metal	for 25 x 6 mm tape	0.41 kg	**STC256**
Gun metal	for 50 x 6 mm tape	0.97 kg	**STC506**
B MODEL			
Brass square clamp for 25 x 3 mm copper tape			
Brass		0.22 kg	**STC253B**
C MODEL			
Cast aluminium for 25 x 3 mm aluminium tape			
Al		0.06 kg	**STA253C**
D MODEL			
Extruded aluminium for 25 x 3 mm aluminium tape			
Al		0.06 kg	**STA253**

Test or Junction Clamp

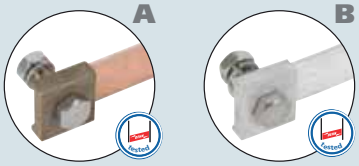
For connection of flat lightning conductors is straight crossovers on T-Junctions.



Material	Weight	PU pc(s)	Part No.
A MODEL Oblong for 25 x 3 mm copper			
Gun metal	0.29 kg	10	**OTC**
B MODEL Plate type for 25 x 3 mm copper			
Gun metal	0.62 kg	1	**PTC**
C MODEL Oblong for 25 x 3 mm aluminium			
Al	0.12 kg	10	**ATC**

B-Bond Clamp

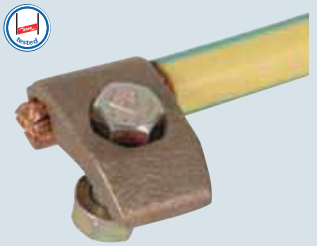
Used to bond copper or aluminium tape to metal surfaces e.g. girders.



Material	Weight	PU pc(s)	Part No.
A MODEL For 25 mm copper tape			
Gun metal	0.10 kg	25	**BBC**
B MODEL For 25 mm aluminium tape			
Al	0.06 kg	25	**BBA**

Tower Earth Clamp

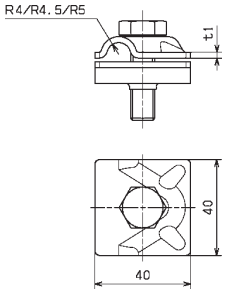
Manufactured from high quality gun metal



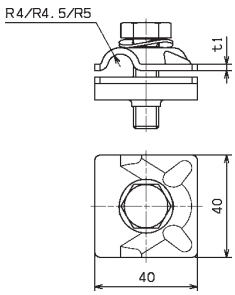
For bonding round conductors or cables to structures.

Material	Clamping range	Weight	PU pc(s)	Part No.
A MODEL				
Gun metal	25 - 70 mm²	0.06 kg		**DKM25**

A



B



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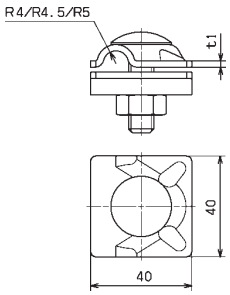
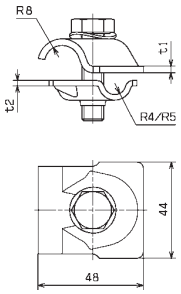


D



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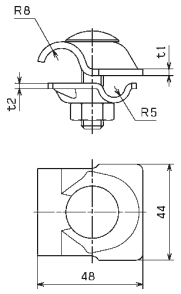


Multipurpose connecting clamp for universal use as a cross clamp, T clamp and parallel clamp, two-part unit

Clamp Material	Clamping range Rd	Material thickness (t1/t2)	Screw	Screw/Nut Material	Standard	I_k (50 Hz) t=1 s Temp. max. 300°C	PU pc(s)	Part No.
A MODEL With hexagon screw and threaded base part								
St/tZn	8-10 mm	2.5 mm	M10x30 mm	St/Zn	DIN EN 50164-1	5.2 kA	50	390 050
Al	8-10 mm	3.0 mm	M10x30 mm	StSt	DIN EN 50164-1		50	390 051
StSt	8-10 mm	2.5 mm	M10x30 mm	StSt	DIN EN 50164-1		50	390 059
Cu	8 mm	3.0 mm	M10x30 mm	StSt	DIN EN 50164-1		50	390 057
St/tZn	10 mm	2.5 mm	M10x35 mm	St/Zn	DIN EN 50164-1		50	391 050
StSt	10 mm	2.5 mm	M10x35 mm	StSt	DIN EN 50164-1		50	391 059
B MODEL With hexagon screw, spring washer and threaded base part								
St/tZn	8-10 mm	2.5 mm	M10x30 mm	St/Zn	DIN EN 50164-1		50	390 550
Al	8-10 mm	3.0 mm	M10x30 mm	StSt	DIN EN 50164-1		50	390 551
StSt	8-10 mm	2.5 mm	M10x30 mm	StSt	DIN EN 50164-1		50	390 559
Cu	8 mm	3.0 mm	M10x30 mm	StSt	DIN EN 50164-1		50	390 557
St/tZn	10 mm	2.5 mm	M10x35 mm	St/Zn	DIN EN 50164-1		50	391 550
StSt	10 mm	2.5 mm	M10x35 mm	StSt	DIN EN 50164-1		50	391 559
C MODEL With truss head screw and protection against twisting								
St/tZn	8-10 mm	2.5 mm	M10x35 mm	St/tZn	DIN EN 50164-1		50	390 060
Al	8-10 mm	3.0 mm	M10x35 mm	St/tZn	DIN EN 50164-1		50	390 061
Cu	8 mm	3.0 mm	M10x35 mm	StSt	DIN EN 50164-1		50	390 067
St/tZn	10 mm	2.5 mm	M10x35 mm	St/tZn	DIN EN 50164-1		50	391 060
StSt	10 mm	2.5 mm	M10x35 mm	StSt	DIN EN 50164-1		50	391 069
D MODEL With hexagon screw, spring washer and threaded base part, especially for air-termination rods								
St/tZn	8-10/16 mm	3.0/2.5 mm	M10x40 mm	St/Zn	DIN EN 50164-1		50	392 050
StSt	8-10/16 mm	3.0/2.5 mm	M10x40 mm	StSt	DIN EN 50164-1		50	392 059
E MODEL With truss head screw and protection against twisting, especially for air-termination rods								
St/tZn	8-10/16 mm	3.0/2.5 mm	M10x40 mm	St/Zn	DIN EN 50164-1		50	392 060
StSt	8-10/16 mm	3.0/2.5 mm	M10x40 mm	StSt	DIN EN 50164-1		50	392 069

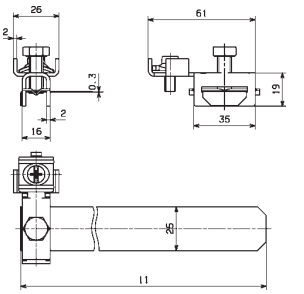
I_k = short-circuit current; t = time

MV Clamps St/tZn, Part No. 390 060 with screw made of StSt , Part No. 390 060/S, Id. No. 045137 available on request.

Earthing Clamp

to BS 951

For integrating pipes into the equipotential bonding with continuously adjustable tensioning strap



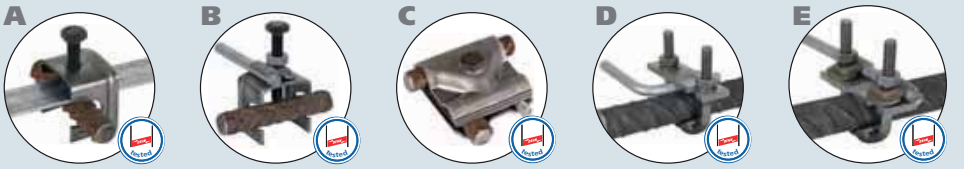
Material	Clamping range	Weight	PU pc(s)	Part No.
A MODEL				
For connection of 1 or 2 conductors with through-wiring, cross-sectional area 4-25 mm²				
StSt	¾-2" 26.9 - 60.3 mm	0.071 kg	10	**540 910**
StSt	¾-4" 26.9 - 114.3 mm	0.076 kg	10	**540 911**
StSt	¾-6" 26.9 - 165 mm	0.093 kg	10	**540 912**

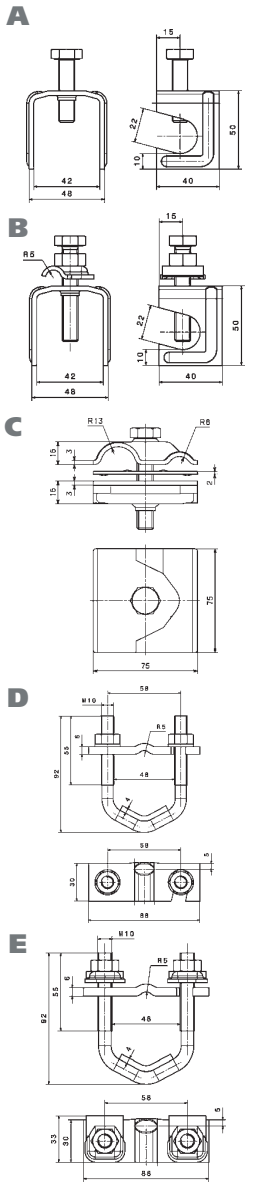
Re-bar Clamp

for reinforcements

For connecting reinforced concrete mats or reinforcements to round and flat conductors

Arrangements:
(II) = parallel
(+) = cross





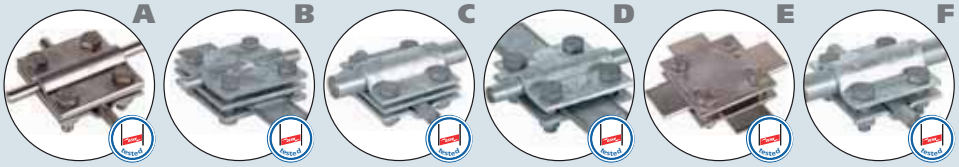
Material	Clamping range mm Rd / Rd	Rd / Fl	Fl / Fl	Screw	Screw Material	I_k (50 Hz) t=1 s Standard	Temp. max. 300°C	PU pc(s)	Part No.
A MODEL									
For T and cross connections									
St/bare		(+) 6-22 / 40		M10x40 mm	**St/bare**	DIN EN 50164-1		25	**308 030**
B MODEL									
For T, cross and parallel connections with clamping frame for flexible connection of round conductors or for fixed earthing terminals with simultaneous fixing in the formwork									
St/bare	(+/II) 6-22 / 6-10	(+) 6-22 / 40		M10x60 mm	**St/bare**	DIN EN 50164-1		25	**308 035**
C MODEL									
MAXI MV clamp for T, cross and parallel connections Part No. 308 040 with UL certification									
St/tZn	(+ / II) 8-16 / 15-25			M12x65 mm	**St/tZn**	DIN EN 50164-1		20	**308 041**
St/bare	(+ / II) 8-16 / 15-25			M12x65 mm	**St/bare**	DIN EN 50164-1		20	**308 040**
D MODEL									
U-type clamp for large diameters									
St/bare	(II) 16-48 / 6-10	(II) 16-48 / 30-40		Stirrup bolt M10x48 mm	**St/bare**	DIN EN 50164-1	16 kA	25	**308 045**
E MODEL									
U-type clamp for large diameters with two additional clamping frames for cross connection of round conductors or for fixing with simultaneous connection of fixed earthing terminals									
St/bare	(+/II) 16-48 / 6-10	(II) 16-48 / 30-40		Stirrup bolt M10x48 mm	**St/bare**	DIN EN 50164-1	11 kA	25	**308 046**

I_k = short-circuit current; t = time

Cross Unit

for aboveground and underground connections

For connecting conductors in cross and T arrangement



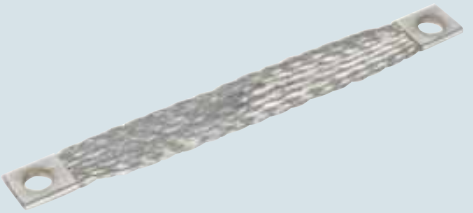
Clamp material	Clamping range mm Rd / Rd	Rd / Fl	Fl / Fl	Screw type	Screw/Nut material	Dimension (l x w x t1)	I_k (50 Hz) t=1 s Temp. max. 300°C	PU pc(s)	Part No.
A MODEL With intermediate plate for Rd and Fl conductors									
St/tZn	8-10 / 8-10	8-10 / 30	30 / 30	M8x25 mm	St/tZn	60x60x3 mm		25	319 201
Cu	8-10 / 8-10	8-10 / 30	30 / 30	M8x25 mm	StSt	60x60x4 mm		25	319 207
StSt (V4A)	8-10 / 8-10	8-10 / 30	30 / 30	M8x25 mm	StSt (V4A)	60x60x3 mm		25	319 209
B MODEL With intermediate plate for Rd and Fl conductors up to 40 mm									
St/tZn		8-10/30-40	30-40/30-40	M8x30 mm	St/tZn	70x70x4 mm		10	321 045
Cu		8-10/30-40	30-40/30-40	M8x30 mm	StSt	70x70x3 mm		10	321 047
StSt (V4A)	7-10/7-10	7-10/30-40	30-40/30-40	M8x30 mm	StSt (V4A)	70x70x3 mm		25	319 229
C MODEL With intermediate plate for earth entries or air-termination rods									
St/tZn	8-10 / 16	16 / 30		M8x25 mm	St/tZn	60x60x3 mm		25	319 202
StSt (V4A)	8-10 / 16	16 / 30		M8x25 mm	StSt (V4A)	60x60x3 mm		25	319 219
D MODEL Without intermediate plate for Rd and Fl conductors									
St/tZn		8-10 / 30	30 / 30	M8x25 mm	St/tZn	60x60x3 mm	14 kA	25	318 201
Cu		8-10 / 30	30 / 30	M8x25 mm	StSt	60x60x4 mm	29 kA	25	318 207
StSt (V4A)		8-10 / 30	30 / 30	M8x25 mm	StSt (V4A)	60x60x3 mm	7.0 kA	25	318 209
St/tZn	8-10 / 8-10	8-10 / 30	30 / 30	M8x25 mm	St/tZn	60x60x3 mm		25	318 251
E MODEL Without intermediate plate for Fl and Fl conductors									
St/tZn			30 / 30	M8x25 mm	St/tZn	60x60x3 mm	7.35 kA	25	318 033
StSt (V4A)			30 / 30	M8x25 mm	StSt (V4A)	60x60x3 mm		25	318 233
St/tZn			30-40/30-40	M8x30 mm	St/tZn	70x70x4 mm		25	320 044
F MODEL Without intermediate plate for earth entries or air-termination rods									
St/tZn	8-10 / 16	16 / 30		M8x25 mm	St/tZn	60x60x3 mm		25	318 252

I_k = short-circuit current; t = time

Type StSt (V4A) especially for Fl 30 mm and Rd 8-10 mm with intermediate plate (dimension: 60x60 mm)
Part No. 319 209/S Id. No. 040332, available on request

Flexible Copper Earth Braid Bond

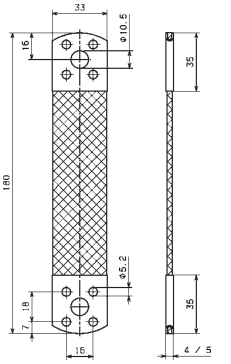
BS EN 13602:2002



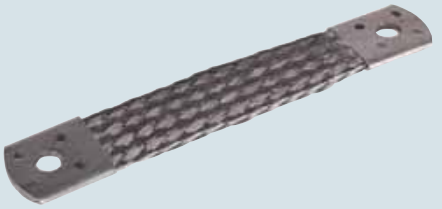
For connecting metal sheathings or as expansion piece.

Material	Dimension	Weight	Lug Ø	PU pc(s)	Part No.
A MODEL					
Cu/gal Sn	25 x 3.5 x 200 mm	0.09 kg	10 mm	1	FCB1
Cu/gal Sn	25 x 3.5 x 400 mm	0.15 kg	10 mm	1	FCB2
Cu/gal Sn	Available by the metre	0.33 kg	10 mm	1	FCB3

A



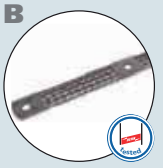
Bridging Braid



For connecting metal sheaths or for use as a compensation piece for expansions, for riveting or screwing

A

B



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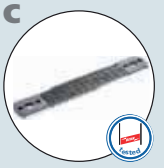

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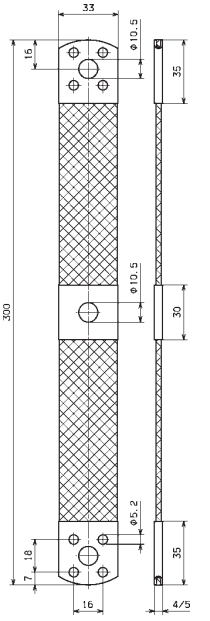
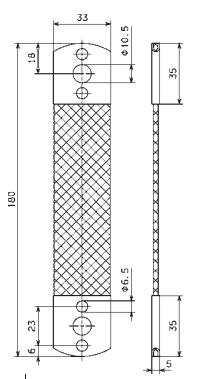


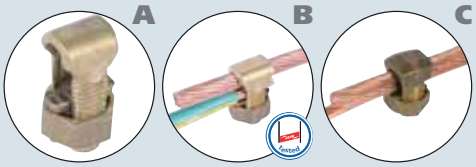
Material	Length	Cross section	Fixing holes Ø	Central bore Ø	Standard	PU pc(s)	Part No.
A MODEL							
Without central bore							
Al	180 mm	50 mm²	1x10.5 / 4x5.2 mm		DIN EN 50164-(1+2)	10	377 015
Cu	180 mm	50 mm²	1x10.5 / 4x5.2 mm		DIN EN 50164-(1+2)	10	377 007
B MODEL							
With central bore							
Note: At crossovers, 2 bridging braids can be connected with an M10x20 mm screw and nut							
Al	300 mm	50 mm²	1x10.5 / 4x5.2 mm	10.5 mm	DIN EN 50164-(1+2)	10	377 115
Cu	300 mm	50 mm²	1x10.5 / 4x5.2 mm	10.5 mm	DIN EN 50164-(1+2)	10	377 107
C MODEL							
Type for fixing with self-tapping screws							
Al	180 mm	50 mm²	1x10.5 / 2x6.5 mm		DIN EN 50164-(1+2)	100	377 045

C



High-strength Split Bolt Connector (Type H)

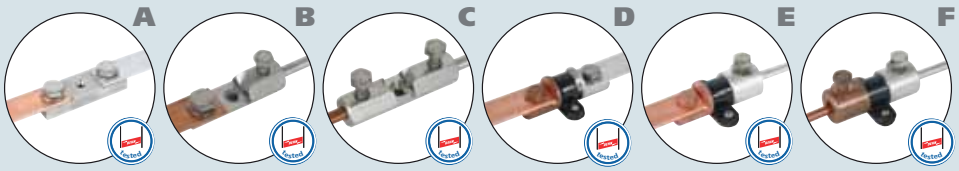
Connecting clamps for wire.



Material	Dimension	Weight	PU pc(s)	Part No.
A MODEL				
Ms	16 mm² to 35 mm²	0.06 kg	25	GK35
B MODEL				
Ms	35 mm² to 70 mm²	0.14 kg	25	GK63
C MODEL				
Ms	50 mm² to 120 mm²	0.18 kg	25	GK120

Bimetal Connector

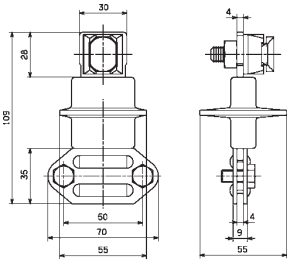
Enables installer to connect two dissimilar metals, without any problems with reaction e.g. Cu to Alu



Material	Weight	PU pc(s)	Part No.
A MODEL 25 x 3 mm aluminium tape to 25 x 3 mm copper tape stainless steel version			
StSt	0.20 kg	10	BMC1SS
B MODEL 8 mm aluminium to 25 x 3 mm copper tape stainless steel version			
StSt	0.16 kg	10	BMC2SS
C MODEL 8 mm copper to 8 mm aluminium stainless steel version			
StSt	0.16 kg	10	BMC3SS
D MODEL 25 x 3 mm aluminium tape to 25 x 3 mm copper tape			
Cu / Al	0.20 kg	10	BMC1
E MODEL 8 mm aluminium to 25 x 3 mm copper tape			
Cu / Al	0.08 kg	10	BMC2
F MODEL 8 mm copper to 8 mm aluminium			
Cu / Al	0.08 kg	10	BMC3

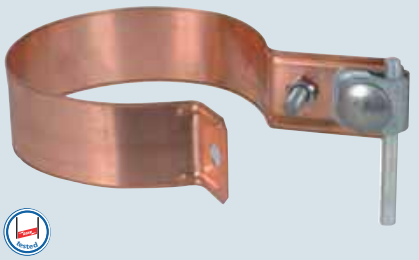
Bimetallic Isolating Clamp with Shield

For joining conductors made of different materials

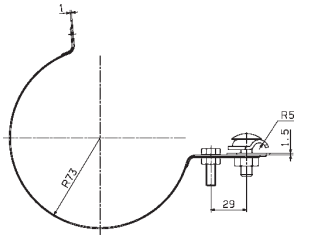


Material	Clamping range Rd / Fl	Screw	Screw material	Shield	Standard	PU pc(s)	Part No.
With Cu KS connector and St/tZn cleat							
Cu / St/tZn	6-10 / 30 mm	M8x16 mm	StSt	P (grey)	DIN EN 50164-1	10	460 147

Bimetallic Downpipe Clamp



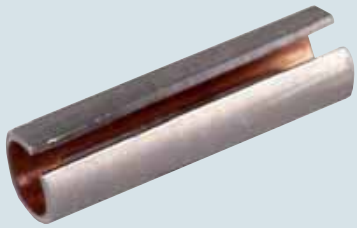
For connecting steel conductors with copper downpipes, with St/tZn clamping frame and intermediate plate (Cupal)

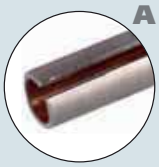


Material	Clamping range of pipe Ø	Clamping range Rd	Screw	Screw/Nut	Standard	PU pc(s)	Part No.
Cu / St/tZn	100 mm	6-10 mm	M8x25 / M10x30 mm	StSt	DIN EN 50164-1	50	420 207

Cupal Sleeve

For corrosion-resistant connection of steel or aluminium and copper





Material outside	Material inside	Cross section	Length	PU pc(s)	Part No.
A MODEL For attaching to cut conductors (Rd 8 mm = 50 mm²)					
Al	Cu	25 mm²	29 mm	100	562 250
Al	Cu	35 mm²	32 mm	100	562 035
Al	Cu	50 mm²	40 mm	100	562 050
Cu	Al	35 mm²	32 mm	100	562 135
Cu	Al	50 mm²	40 mm	100	562 150
B MODEL For attaching to uncut conductors (Rd 8 mm = 50 mm²)					
Al	Cu	50 mm²	60 mm	100	562 001
Cu	Al	50 mm²	60 mm	100	562 101

Cupal Sheet

For corrosion-resistant connection of steel or aluminium and copper, in strips

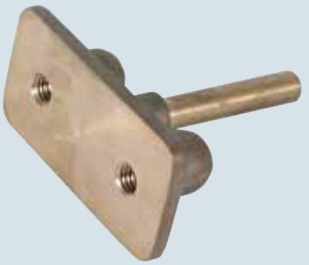
Material	Dimension (l x w x d)	PU pc(s)	Part No.
Al / Cu	500x40x0.5 mm	1	562 440
Al / Cu	500x60x0.5 mm	1	562 460

Fixed Earthing Terminal

Test Clamp

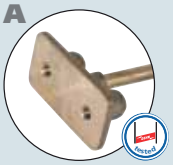
Bimetallic Test Point

Fixed Earthing Point

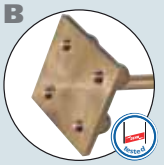


For connecting internal metal work or re-bars to internal earthing system.

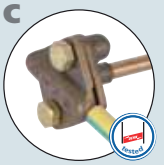
A



B

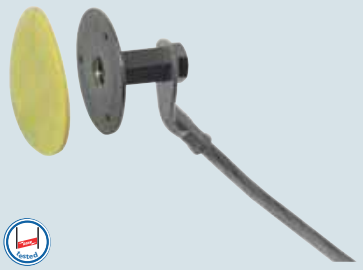


C



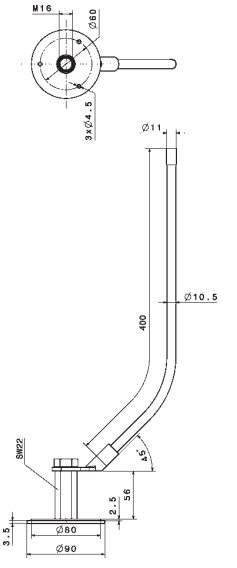
Material	Hole size	Weight	PU pc(s)	Part No.
A MODEL 2-hole earthing point no front plate				
Gun metal	M10	0.30 kg	1	**EP2**
B MODEL 4-hole earthing point no front plate				
Gun metal	M10	0.40 kg	1	**EP4**
C MODEL 2-hole earthing point with front plate for connecting 70mm² cable or 25 x 3 mm copper tape				
Gun metal	M10	0.44 kg	1	**EP2P**

Fixed Earthing Terminal M16



With terminal thread M16 for higher current loadings (50 Hz), e.g. for connection of the ring equipotential bonding at the earth-termination systems of power systems with nominal a.c. voltages exceeding 1 kV (transformer earthing).
The terminal cable can be connected to the further components of the earth-termination system e.g. with a cross unit (Part No. 319 229), or to the reinforcement with the corresponding clamps.

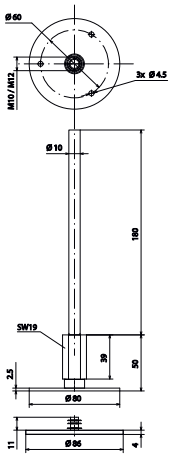
With snap-on plastic cover (yellow) and sealing around the terminal thread for the formwork installation.

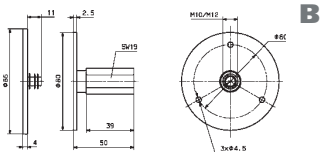


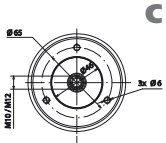
Terminal thread	Material Plate	Material Cable	Cross section Terminal cable	Length Terminal cable	Diameter Terminal cable	Connecting plate Ø	I_k (50 Hz) t=1 s Temp. max. 300°	PU pc(s)	Part No.
M16	StSt (V4A)	**Cu/gal Sn**	70 mm	400 mm	10.5 mm	80 mm	11 kA	1	**478 027**

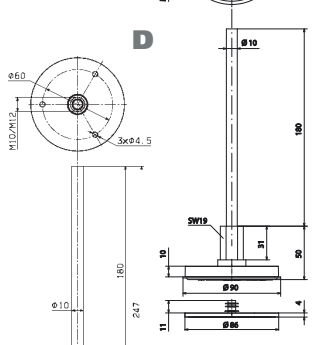
I_k = short-circuit current; t = time

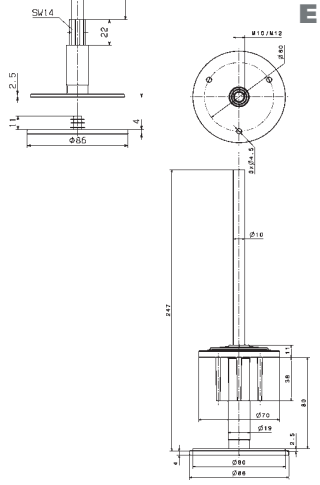
For further details on use and installation, please see also installation instructions No. 1689

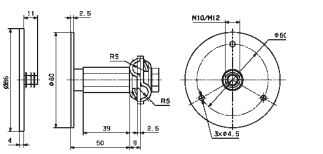










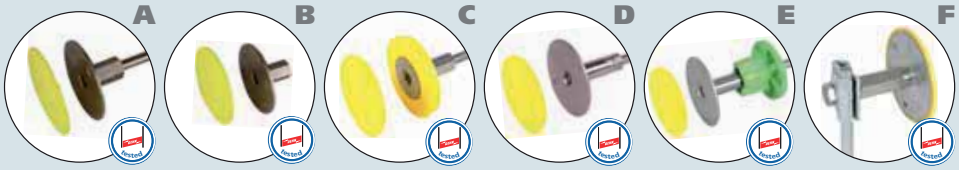


For connecting

- the down conductor e.g. to the reinforcement of buildings
- to the earth-termination system for the main and/or additional equipotential bonding
- as measuring point for the transient or resistance test

The double thread M10 and M12 screws must have the following minimum lengths:
35 mm for M10 (thread length 40 mm)
15 mm for M12 (thread length 20 mm)

- Allows for connection to the terminal axis with cross unit, e.g. Part No. 319 201 or connecting clamp, e.g. Part No. 308 025 for the reinforcement
- Allows for connection to the equipotential bonding bar, e.g. end pieces Part No. 390 479
- Allows for connection of flat conductors at the connecting plate (front) or without terminal axis (back), e.g. terminal clamp Part No. 478 141 or 478 129
- Screwable or compressed terminal axis
- Snap-on (yellow) plastic cover



Terminal thread	Plate material	Axis material	Connecting plate Ø	I_k (50 Hz) t = 1 s Temp. max. 300°	Standard	PU pc(s)	Part No.
A MODEL Type M with terminal axis (l= 195 mm, Ø10 mm)							
M10 / 12	StSt (V4A)	St/tZn	80 mm	6.5 kA	DIN EN 50164-1	10	478 011
M10 / 12	StSt (V4A)	StSt	80 mm	3.4 kA	DIN EN 50164-1	10	478 019
B MODEL Type M without terminal axis							
M10 / 12	StSt (V4A)		80 mm	9 kA	DIN EN 50164-1	10	478 012
C MODEL Type K with plastic ring and terminal axis (l= 195 mm, Ø10 mm)							
M10 / 12	StSt (V4A)	St/tZn	47 mm	6.5 kA	DIN EN 50164-1	10	478 200
D MODEL Type M with compressed terminal axis (l= 180 mm, Ø10 mm) Part No. 478 049 with UL certification							
M10 / 12	StSt (V4A)	St/tZn	80 mm	5.8 kA	DIN EN 50164-1	10	478 041
M10 / 12	StSt (V4A)	StSt	80 mm	3.4 kA	DIN EN 50164-1	10	478 049
E MODEL Type M with compressed terminal axis and additional water barrier against penetration of water along the axis into the wall (Tested with compressed air 5 bar according to FprEN 50164-5 (sate 06.2008))							
M10 / 12	StSt (V4A)	St/tZn	80 mm	6.5 kA	DIN EN 50164-1	1	478 051
F MODEL Type M with MV clamp for round conductors (8-10 mm), design requires only little space in the shuttering							
M10 / 12	StSt (V4A)	—	80 mm	5.5 kA	DIN EN 50164-1	10	478 112

I_k = short-circuit current; t = time

For further details on use and installation, please see installation instructions No. 1476.

Waterproof Wall Bushing

for White Tank

White tank construction is state-of-the-art for new buildings with basement. The white tank design requires no additional sealing layer because base plate and outer walls are implemented as closed tank out of highly waterproof concrete according to EN 206-1 and DIN 1045-2. This concrete is characterised as waterproof concrete or impervious concrete.

Input of the earthing material with a minimum concrete layer of 5 cm (measure of protection against corrosion) provides a humidity seal and moisture barrier in the installation area so that the concrete has an insulating effect. Therefore an earth electrode has to be installed outside the white tank of buildings. In case of new constructions this earth electrode usually will be installed in the blinding layer underneath the foundation plate.
The effects of the modified composition of impervious concrete are described in DIN 18014 „Fundamenterder – Allgemeine Planungsgrundlagen“:2007-09
(Title English: Foundation earth electrode – General planning criteria).
Meshes of the ring earth electrode installed according to DIN 18014 have to be connected with the main earthing busbar (MEB) (previous: main equipotential bonding bar) inside the building for equipotential bonding.

Connecting terminals of the ring earth electrode also must be waterproof. On developing the waterproof wall bushing, DEHN + SOEHNE has applied the requirements for white tanks also to the product. Reality conform component specifications were especially important. For that reason it was extremely important for developing such components to configurate reality as real as possible. The specimen were encased into a concrete body and submitted to a pressure water test. Installation sites in a depth of 10 m (such as required for underground car parks) are quite usual in the field of building technique. Such special conditions were exerted on the specimen and a water pressure of 1 bar was imposed. After the concrete hardening, the specimen were subjected to a pressure water test and examined for watertightness during a 65 hours long-term test.
Capillary attraction of bushings additionally increases the severity. In narrow gaps, cracks or tubes (capillaries), liquids such as water, in fact spread quite differently, developing a drawing or suction effect into the interior of the building. During the hardening and the concurrent shrinking process of the concrete narrow gaps or capillaries may arise.
Therefore a professional, competent and correct installation of the wall bushing in the formwork, as described in detail in the installation instructions, is quite important.

Figure 1: Wall bushing with formwork installation

Figure 2: Set-up for the pressure water test

Tested with 5 bar compressed air according to FprEN 50164-5 (state 2008-06)
Unit for formwork installation with water barrier and double thread (M10/12) for connection to e.g. the equipotential bonding bar. Adjustable according to wall thickness with M10 thread and lock nut. The bushing can be shortened, if necessary, also at the thread. Including terminal fitting (St/tZn, dimension 30x4 mm) with square hole for connection with clamping frame at round conductor or cross unit at strip conductors.

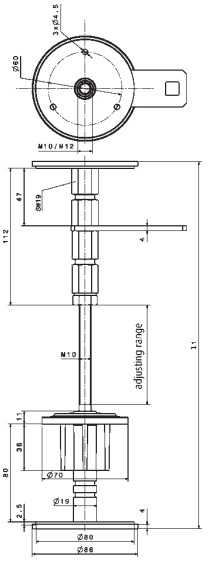


Plate material	Axis material	Wall thickness (l1)	Terminal thread	Connecting plate Ø	Standard	I_k (50 Hz) t=1 s Temp. max. 300°C	PU pc(s)	Part No.
StSt (V4A)	St/tZn	200-300 mm	M10 / 12	80 mm	DIN EN 50164-1	4.1 kA	1	478 530
StSt (V4A)	St/tZn	300-400 mm	M10 / 12	80 mm	DIN EN 50164-1	4.1 kA	1	478 540
StSt (V4A)	St/tZn	400-500 mm	M10 / 12	80 mm	DIN EN 50164-1	4.1 kA	1	478 550

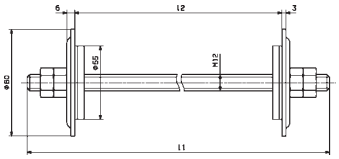
I_k = short-circuit current; t = time

For closer details about application and installation, please see our installation instructions No. 1654.

Tested according to EN 50164-1
(VDE 0185 Part 201)

Bushing for Roofs, Walls and Earth Electrodes

For waterproof duct of walls and flat roofs (against stagnant water), with threaded M12 rod made of StSt for subsequent installation.

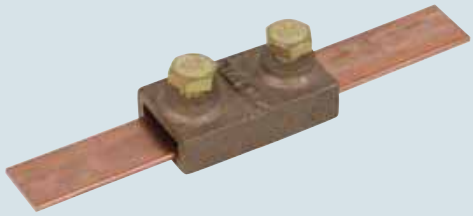


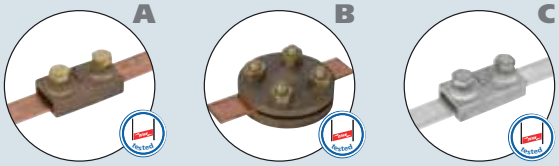
Length Bushing (l2)	Length Threaded rod (l1)	Sealing	Sealing plate Ø	Material Plate	PU pc(s)	Part No.
100-200 mm	300 mm	**chloropren rubber**	80 mm	StSt (V4A)	1	**478 310**
200-300 mm	400 mm	**chloropren rubber**	80 mm	StSt (V4A)	1	**478 320**
300-400 mm	500 mm	**chloropren rubber**	80 mm	StSt (V4A)	1	**478 330**
400-600 mm	700 mm	**chloropren rubber**	80 mm	StSt (V4A)	1	**478 340**

For further details, please see installation instructions No. 1332.

Test or Junction Clamp

For connecting the down conductor system with the earth-termination system.





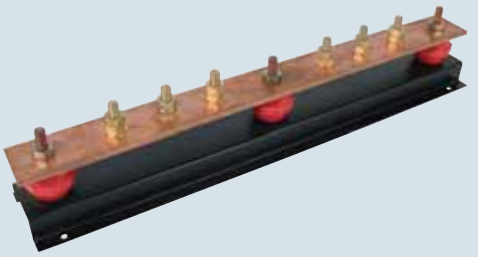
Material	Weight	PU pc(s)	Part No.
A MODEL Oblong for 25 x 3 mm copper			
Gun metal	0.29 kg	10	**OTC**
B MODEL Plate type for 25 x 3 mm copper			
Gun metal	0.62 kg	1	**PTC**
C MODEL Oblong for 25 x 3 mm aluminium			
Al	0.12 kg	10	**ATC**

Earth Bar

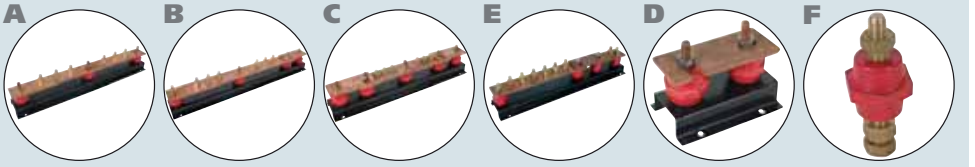
Equipotential Bond

Equipotential Bonding Bar

Earth Bars and Disconnecting Links



– DEHN high quality earth bars come with or without disconnection links
– High grade C101 50mm x 6mm copper
– Brass/Stainless fittings
– Reinforced polyester insulators
– Top Hat`channel base mild steel black powder coated



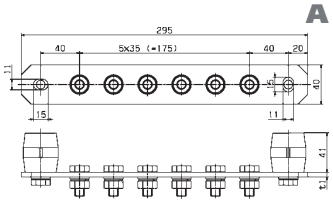
Material	Weight	Dimensions l - w - h	Number of ways	Part No.
A MODEL Earth bar without disconnecting link				
Cu	2.80 kg	520 x 85 x 70 mm	6	EB6
Cu	2.90 kg	520 x 85 x 70 mm	8	EB8
Cu	3.60 kg	650 x 85 x 70 mm	10	EB10
Cu	4.00 kg	755 x 85 x 70 mm	12	EB12
Cu	4.50 kg	800 x 85 x 70 mm	14	EB14
B MODEL Earth bar with single disconnecting link				
Cu	2.90 kg	575 x 85 x 70 mm	6	EB6L
Cu	3.20 kg	575 x 85 x 70 mm	8	EB8L
Cu	3.90 kg	725 x 85 x 70 mm	10	EB10L
Cu	4.40 kg	840 x 85 x 70 mm	12	EB12L
Cu	4.80 kg	880 x 85 x 70 mm	14	EB14L
C MODEL Earth bar with twin disconnecting links				
Cu	3.4 kg	450 x 85 x 70 mm	6	EB62L
D MODEL Disconnecting link				
Cu	3.0 kg	460 x 50 x 70 mm		EB6L1
E MODEL Disconnecting link				
Cu	0.6 kg	230 x 85 x 70 mm		EBL
F MODEL Insulator complete with 2 off brass studs and 3 Nuts M10 Threads				
(DMC) Polyester	0.123 kg	35 x 33 x 25 mm		**INS**

Other sizes and specials available upon request.

Equipotential Busbar

for Industrial Installations

A



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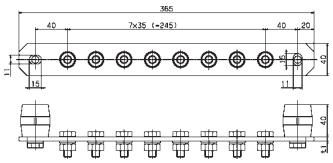

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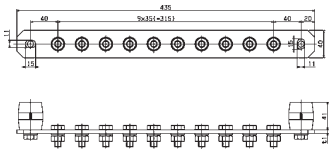

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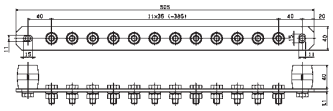
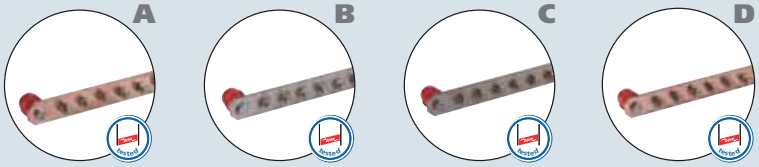


For protective equipotential bonding according to IEC 60364-4-41 / 60364-5-54 and lightning equipotential bonding according to IEC / EN / BS EN 62305
Also for use in explosive zones
(screws protected against self-loosening)
Type:
– Insulator for flush mounting (red Duroplast) with M10 thread
– UV-stabilised



Material	Dimension (l x w x t1)	Cross section	Screw	Screw/Nut Material	Spring washer	PU pc(s)	Part No.
A MODEL 6 connections with insulators							
Cu	295x40x5 mm	200 mm²	M10x25 mm	StSt	✔	1	472 207
StSt	295x40x6 mm	240 mm²	M10x25 mm	StSt	✔	1	472 209
B MODEL 8 connections with insulators							
Cu	365x40x5 mm	200 mm²	M10x25 mm	StSt	✔	1	472 227
StSt	365x40x6 mm	240 mm²	M10x25 mm	StSt	✔	1	472 229
C MODEL 10 connections with insulators							
Cu	435x40x5 mm	200 mm²	M10x25 mm	StSt	✔	1	472 217
StSt	435x40x6 mm	240 mm²	M10x25 mm	StSt	✔	1	472 219
D MODEL 12 connections with insulators							
Cu	505x40x5 mm	200 mm²	M10x25 mm	StSt	✔	1	472 237
StSt	505x40x6 mm	240 mm²	M10x25 mm	StSt	✔	1	472 239

Accessories

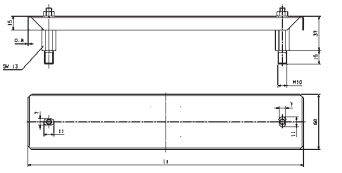
Insulator for EB (Industry)

Material	Thread	Colour	Dimension (d x h)	PU pc(s)	Part No.
UP (Duroplast)	M10	red	32x40 mm	1	**472 210**

Cover for EB (Industry)

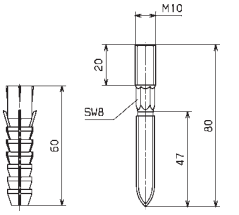
Covers for EB with insulators

EB Type	Dimension (l x w x d)	Cover Material	Distance bolt	Screw/Nut Material	PU pc(s)	Part No.
6 connections	301x60x0.8 mm	StSt	M10/M6	StSt	1	472 279
8 connections	371x60x0.8 mm	StSt	M10/M6	StSt	1	472 269
10 connections	441x60x0.8 mm	StSt	M10/M6	StSt	1	472 289
12 connections	511x60x0.8 mm	StSt	M10/M6	StSt	1	472 299



Fixing Set for EB (Industry)

Screw Material	Screw Type	Plastic Dowel	Length	PU pc(s)	Part No.
St/tZn	45 mm ⏚ M10x20 mm	Ø 12x60 mm	80 mm	1	**472 201**



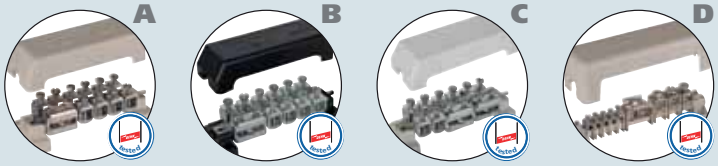
Modular Earth Bars and Disconnect Link

For main equipotential bonding according to IEC 60354-4-41:2005, IEC 60364-5-54:2007 and lightning equipotential bonding according to IEC 62305-3 / EN 62305-3

Type:

- Tested according to DIN VDE 0618 Part 1
- Fixing frames and cover made of grey plastic material
- Sealable cover
- Snap-on terminals, St/gal Zn (loosely included)
- With 12 contact studs

Reservation:
For Rd conductors,
1 contact stud each
For Fl conductors,
2 contact studs each

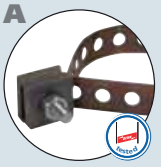


Material	Weight	Number of Terminals	PU pc(s)	Part No.
A MODEL				
Type K12: 30 mm² earth bar 10 terminals for 2.5 mm² to 95 mm² or 10 mm x 10 mm and 1 terminal for flat strip 30 x 4 mm				
	0.41 kg	1 terminal for flat strip 30 x 4 mm	1	**563 200 or EBD1**
B MODEL				
Type K12: 30 mm² earth bar 10 terminals for 2.5 mm² to 95 mm² cover UV-stabilized material				
	0.41 kg	1 terminal for flat strip 30 x 4 mm	1	**563 201**
C MODEL				
Type K12: 30 mm² earth bar				
		6 terminals for 2.5 mm²		
	0.38 kg	3 terminals for flat strip 30 x 4 mm	1	**563 200S or EBD3**
D MODEL				
Type R15: 10 x 10 mm brass earth bar				
		5 terminals for 16 mm²		
		3 terminals for 16 - 95 mm²		
	0.50 kg	1 terminal for flat strip 30 x 8 mm	1	**563 020 or EBD2**

RWP Bond

For bonding general pipes or rainwater down pipes to lightning conductors.
Clamping range adjustable.

A



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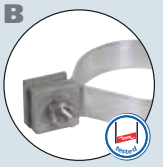
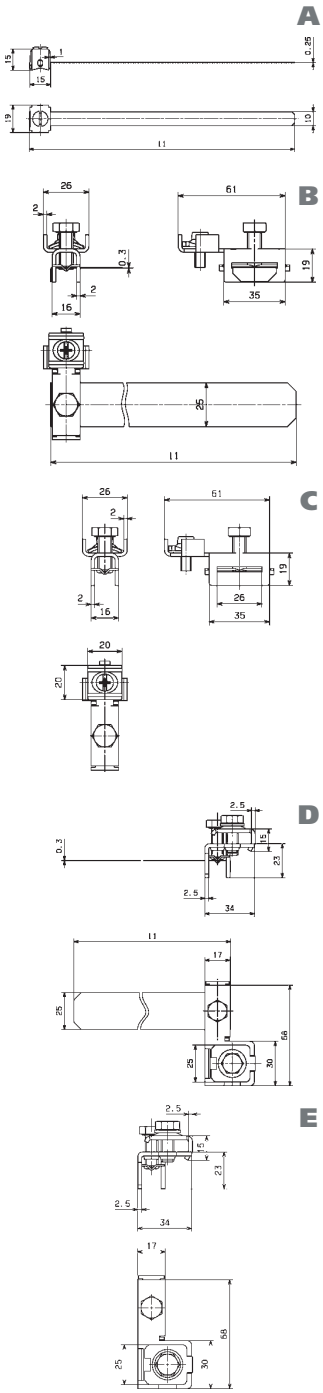


Perforated copper tape and aluminium tape are extra items.

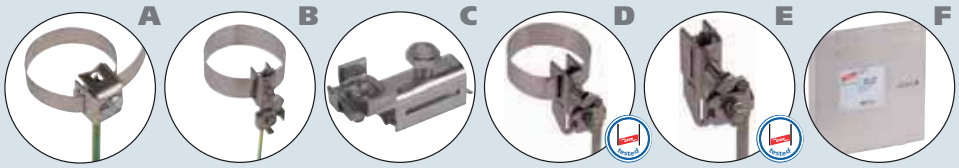
Material	Weight	PU pc(s)	Part No.
A MODEL Pipework bond for copper 25 mm²			
Gun metal	0.12 kg	10	**RWPC**
B MODEL Pipework bond for aluminium 25 mm²			
Al	0.07 kg	10	**RWPA**

Perforated Copper Strip

Material	Dimension	Weight	Coil size	Part No.
A MODEL				
Cu	23 x 1.5 mm	0.25 kg/m	10 m	**TC2515P**



For integrating pipes into the equipotential bonding according to IEC 60364 with continuously adjustable tensioning strap



Material	Clamping Range Pipe Ø		Screw Type	Screw Material	Strap Dimension (l1 x w x d)	PU pc(s)	Part No.
A MODEL							
1 conductor terminal, cross-sectional area 2.5-6 mm²							
Ms/gal Sn / bronze	¼-1 ½ "	13.5-48.3 mm	M6x10 mm	**St/gal Zn**	190x10x0.25 mm	20	**540 001**
Ms/gal Sn / bronze	¼-3 "	13.5-88.9 mm	M6x10 mm	**St/gal Zn**	325x10x0.25 mm	20	**540 002**
B MODEL							
For connection of 1 or 2 conductors with through-wiring, cross-sectional area 4-25 mm²							
StSt	¾-2 "	26.9-60.3 mm	M8x20 / M6x16 mm	StSt	240x25x0.3 mm	10	540 910
StSt	¾-4 "	26.9-114.3 mm	M8x20 / M6x16 mm	StSt	410x25x0.3 mm	10	540 911
StSt	¾-6 "	26.9-165 mm	M8x20 / M6x16 mm	StSt	570x25x0.3 mm	10	540 912
C MODEL							
Separate grip holder, for combination with continuous tensioning strap (Part No. 540 901), cross-sectional area 4-25 mm²							
StSt			M8x20 / M6x16 mm	StSt		50	540 900
D MODEL							
For connection: 1 Rd conductor 10 mm, 1 or 2 Rd conductors 6-8 mm or 4-25 mm² DIN EN 50164-1							
StSt	¾ - 3"	26.9-88.9 mm	M8x20 mm	StSt	330x25x0.3 mm	10	540 103
StSt	¾ - 6"	26.9-165 mm	M8x20 mm	StSt	570x25x0.3 mm	10	540 100
E MODEL							
Separate grip head, for combination with continuous tensioning strap (Part No. 540 901), connection for 1 Rd conductor 10 mm or 2 Rd conductors 6-8 mm or 4-25 mm²							
StSt			M8x20 mm	StSt	DIN EN 50164-1	50	540 110
F MODEL							
Continuous tensioning strap (100 m long)							
StSt					... x25x0.3 mm	1	540 901

Pipe Clamp for Explosion Hazard Areas

For fixing at pipes in explosion-hazard areas

- **Time-saving installation – no more deactivation of the system/areas required for welding or drilling work**

Pipe clamp for explosion hazard areas for ¾" to 3" and 3" to D=300 mm and D=300 to 500 mm.
Separate clamping body for endless tightening strap (Part No. 540 901) from ¾" to D=500 mm

So far, connections for equipotential bonding and lightning equipotential bonding in explosion-hazard areas have often been welded or provided as threaded bushings. Using clamps was only permitted if there was proof of no ignition sparking at lightning currents. DEHN + SOEHNE has now provided evidence of no ignition sparks for a pipe clamp at lightning current loading. Tested according to EN 50164-1 (VDE 0185-201): Requirements for connection components (clamps and connectors) in a potentially explosive atmosphere, absence of ignition sparks was proved for the test sample with a lightning current carrying capability up to 50 kA (10/350 µs). The design of this new pipe clamp for explosion-risk areas provides not only a safe electrical contact by means of two contact clips, but also the mechanical fixing by an electrically insulated clamping body.

The Ex pipe clamp can be connected to

– round conductors, Cu, St/tZn, Al, StSt with Ø8 mm or stranded copper conductors, cross section 16-35 mm^2, with E-Cu crimping cable lug (DIN 46235)
– flat copper conductors with minimum dimensions of

Figure 1: Pipe clamp for electrical contacting of pipes in explosion-hazard areas for implementing of lightning equipotential bonding according to EN 62305-3 (DIN VDE 0185-305-3)

Figure 2: Attached to a StSt pipe

DEHN + SÖHNE

DECLARATION OF MANUFACTURER

Product:	**Pipe clamp for explosive zones**
Product description:	Part No. 540 821 Part No. 540 801 Part No. 540 803 Part No. 540 805 Part No. 540 810
Manufacturer:	DEHN + SÖHNE GmbH + Co.KG. Hans-Dehn-Str. 1 92318 Neumarkt i.d.OPf., Germany

Application:

The pipe clamp for explosive zones is used for connecting pipes of different materials and diameters to the lightning equipotential bonding structure in explosive atmospheres.

Lightning currents are discharged without formation of sparks as specified in the technical data sheet.

We herewith confirm that the pipe clamp for explosive zones is suitable for the use in explosive zones 1 and 2 (gas, vapour, mist) and explosive zones 21 and 22 (combustible dust) in connection with the installation instructions, Publication No. 1599, "Pipe Clamp for explosive zones" and is tested according to explosion group IIB.

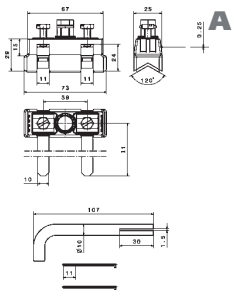
Pipe clamps for explosive zones have no own potential source of ignition (mechanical device) and are thus not subject to the European directive 94/9/EG.

Therefore certification according to the European directive 94/9/EG is **not legally admissible** and **not necessary** with respect to explosion protection.

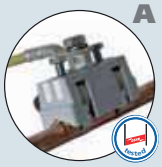
Neumarkt i.d.OPf., 12 Okt. 2009

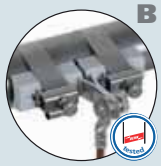
Dr.-Ing. Ralph Brocke
Director R&D

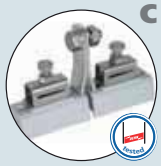
Pipe Clamp for Explosion Hazard Areas

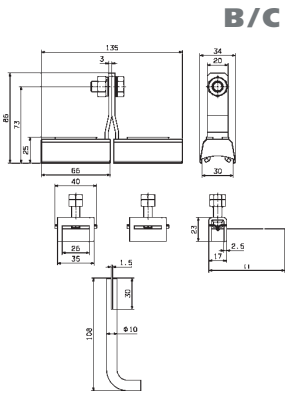


For electrical contacting of pipes in explosion-hazard area, for implementing of lightning equipotential bonding according to DIN EN 62305-3 (VDE 0185-305-3)









Material Contact angle	Material Clamping body	Material Grip head/Strap	Clamping range Pipe Ø		Dimension Tensioning strap (l1 x w x d)	PU pc(s)	Part No.
A MODEL Type Ex-BRS 27 Clamping ranges from D=6 mm to ¾"							
Ms/gal Sn	**polyamide**	**StSt**	Ø6 mm - ¾	6 - 26.9 mm	190x10x0.25 mm	1	**540 821**
B MODEL Type Ex-BRS 90 / Ex-BRS 300 Clamping ranges from ¾" to 3" and from 3" to D=300 mm							
Cu/gal Sn	**polyamide**	**StSt**	¾'' - 3''	Ø26.9 - 88.9 mm	410x25x0.3 mm	1	**540 801**
Cu/gal Sn	**polyamide**	**StSt**	3'' - Ø300 mm	Ø88.9 - 300 mm	1100x25x0.3 mm	1	**540 803**
Cu/gal Sn	**polyamide**	**StSt**	Ø300-500 mm		1850x25x0.3 mm	1	**540 805**
C MODEL Separate clamping body with endless tensioning strap (Part No. 540 901) Clamping ranges from ¾" to D=300 mm							
Cu/gal Sn	**polyamide**	**StSt**	¾'' - Ø300 mm	max. 300 mm	–	1	**540 810**

For further information please also refer to installation instructions No. 1599.

Tensioning Strap

Endless tensioning strap (100 m long)

Material	Dimension Strap (l x w x d)	PU pc(s)	Part No.
StSt	... x25x0.3 mm	1	540 901


Air Final

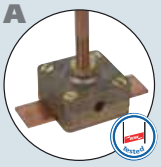

Air Final


Air Final

10 mm Air Terminal Bases and Air Rods

DEHN universal air terminal bases can be mounted both flat on the roof or on a wall.
They will also accept either 25 x 3 mm flat tape or 8 mm round tape.

A



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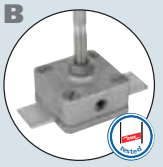

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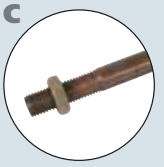

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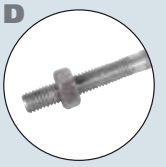
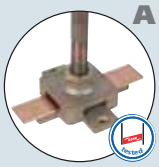
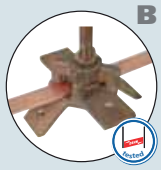


Material	Dimensions	Weight	PU pc(s)	Part No.
A MODEL Gun metal base				
Gun metal	50 x 50 x 25 mm	0.30 kg	1	**ATBC10**
B MODEL Aluminium base				
Al	50 x 50 x 25 mm	0.15 kg	1	**ATBA10**
C MODEL Copper air rod				
Cu	500 x 10 mm	0.60 kg	1	**CAR500/10**
Cu	1000 x 10 mm	1.20 kg	1	**CAR1000/10**
D MODEL Aluminium air rod				
Al	500 x 10 mm	0.20 kg	1	**AAR500/10**
Al	1000 x 10 mm	0.40 kg	1	**AAR1000/10**

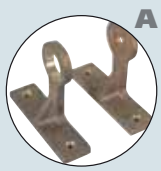
16 mm Air Terminal Bases and Air Rods

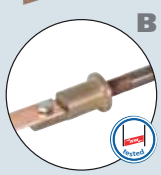




Material	Dimensions	Weight	PU pc(s)	Part No.
A MODEL Air terminal bases for 16 mm rods and 25 x 3 mm tape				
Cu		0.48 kg	1	ATBC
B MODEL Ridge saddle for 16 mm copper rods and 25 x 3 mm tape				
Gun metal		1.08 kg	1	**RS16**
C MODEL 16 mm air rods				
Cu	500 x 16 mm	0.75 kg	1	CAR500
Cu	1000 x 16 mm	1.50 kg	1	CAR1000
Cu	2000 x 16 mm	3.00 kg	1	CAR2000

Rod Brackets and Rod to Tape Coupling

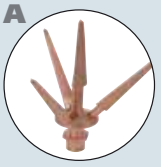




Material	Dimension	Weight	PU pc(s)	Part No.
A MODEL Rod brackets				
Gun metal	For 16 mm Copper rods	0.90 kg	1 pr	**CRB**
B MODEL Rod to tape coupling				
Gun metal	For 16 mm Copper rods & Tape	0.23 kg	1	**TTRC**

Multi-point Air Terminal

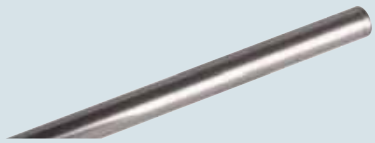
A

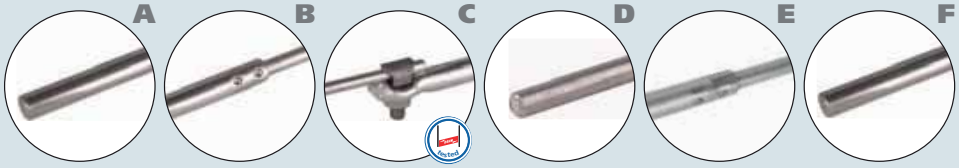


B

Material	Dimension	Weight	PU pc(s)	Part No.
A MODEL Copper multipoint air terminal requires elevation rod				
Cu	18.5 x 12.5 cm	0.40 kg	1	MPT
B MODEL Copper 16 mm air elevation rod				
Cu	1000 x 16 mm	1.50 kg	1	CER1000

For protection of roof-mounted structures, chimneys, etc., also for installation with concrete bases.
Due to the wind load, air-termination rods installed with concrete base require an additional fixing by e.g. DEHNiso distance holder from a free length of 2.5 m up.





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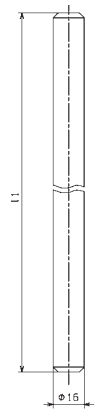

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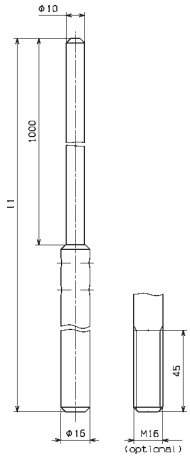

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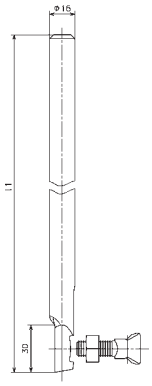

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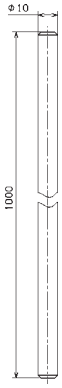

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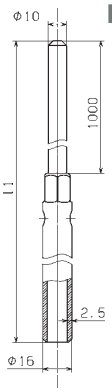
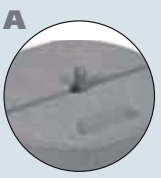
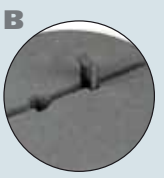


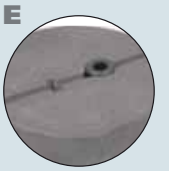
Length (l1)	Material	Standard	Diameter Ø	Thread	For concrete base with wedge	For concrete base with thread	PU pc(s)	Part No.
A MODEL chamfered								
1500 mm	AlMgSi	DIN EN 50164-2	16 mm		✔		10	104 150
2000 mm	AlMgSi	DIN EN 50164-2	16 mm		✔		10	104 200
2500 mm	AlMgSi	DIN EN 50164-2	16 mm		✔		10	104 250
3000 mm	AlMgSi	DIN EN 50164-2	16 mm		✔		10	104 300
1000 mm	St/tZn	DIN EN 50164-2	16 mm		✔		10	483 100
1250 mm	St/tZn	DIN EN 50164-2	16 mm		✔		10	483 125
1500 mm	St/tZn	DIN EN 50164-2	16 mm		✔		10	483 150
2000 mm	St/tZn	DIN EN 50164-2	16 mm		✔		10	483 200
B MODEL tapered, length of tapering 1000 mm each								
1500 mm	AlMgSi	DIN EN 50164-2	16/10 mm		✔		10	103 210
2000 mm	AlMgSi	DIN EN 50164-2	16/10 mm		✔		10	103 220
2500 mm	AlMgSi	DIN EN 50164-2	16/10 mm		✔		10	103 230
3000 mm	AlMgSi	DIN EN 50164-2	16/10 mm		✔		10	103 240
3500 mm	AlMgSi	DIN EN 50164-2	16/10 mm		✔		10	103 250
4000 mm	AlMgSi	DIN EN 50164-2	16/10 mm		✔		10	103 260
5000 mm	AlMgSi	DIN EN 50164-2	16/10 mm		✔		10	103 280
1500 mm	AlMgSi	DIN EN 50164-2	16/10 mm	M16		✔	10	103 211
2000 mm	AlMgSi	DIN EN 50164-2	16/10 mm	M16		✔	10	103 221
2500 mm	AlMgSi	DIN EN 50164-2	16/10 mm	M16		✔	10	103 231
3000 mm	AlMgSi	DIN EN 50164-2	16/10 mm	M16		✔	10	103 241
3500 mm	AlMgSi	DIN EN 50164-2	16/10 mm	M16		✔	10	103 251
4000 mm	AlMgSi	DIN EN 50164-2	16/10 mm	M16		✔	10	103 261
C MODEL Diameter 16 mm, with forged tab and KS screw for connecting Rd conductors 7-10 mm								
1000 mm	St/tZn	DIN EN 50164-(1+2)	16 mm				10	100 100
1500 mm	St/tZn	DIN EN 50164-(1+2)	16 mm				10	100 150
D MODEL Diameter 10 mm, chamfered, especially for base, 8.5 kg (Part No. 102 075) with wedge								
1000 mm	Al	DIN EN 50164-2	10 mm		✔		10	101 000
E MODEL Tubular air-termination rods, light unit, length of tapering 1000 mm each								
1500 mm	AlMgSi	DIN EN 50164-2	16/10 mm		✔		10	103 410
2000 mm	AlMgSi	DIN EN 50164-2	16/10 mm		✔		10	103 420
2500 mm	AlMgSi	DIN EN 50164-2	16/10 mm		✔		10	103 430
3000 mm	AlMgSi	DIN EN 50164-2	16/10 mm		✔		10	103 440
3500 mm	AlMgSi	DIN EN 50164-2	16/10 mm		✔		10	103 450
4000 mm	AlMgSi	DIN EN 50164-2	16/10 mm		✔		10	103 460
5000 mm	AlMgSi	DIN EN 50164-2	16/10 mm		✔		10	103 480
1500 mm	Cu	DIN EN 50164-2	16/10 mm		✔		10	103 417
F MODEL Diameter 16 mm, chamfered, for cutting to length								
6000 mm	AlMgSi	DIN EN 50164-2	16 mm				1	104 600

Concrete Base

For air-termination rods, for protection of small-sized roof superstructures on flat roofs, for installing spacers of the DEHNiso Spacer programme for e.g. isolated ring conductors, or for the self-supporting air-termination rod in the tripod (only 17 kg).

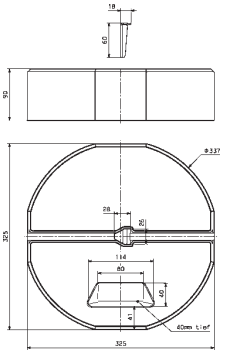






Weight	Diameter Ø	Material	Wedge/Adapter Material	PU pc(s)	Part No.
A MODEL For wedge mounting, stackable, for air-termination rods Ø16 mm, chamfered or diminished, or DEHNiso spacer Ø16 mm					
17 kg	337 mm	**concrete (C45/55)**	StSt	1	**102 010**
B MODEL For wedge mounting, for air-termination rods, 1000 mm long, Ø10 mm or DEHNiso spacer, up to 675 mm long, Ø16 mm (distance 1 m)					
8.5 kg	240 mm	**concrete (C45/55)**	StSt	1	**102 075**
C MODEL For wedge mounting, with adapted flat washer, stackable					
17 kg	337 mm	**concrete (C45/55)**	StSt	1	**102 340**
D MODEL With threaded adapter, for air-termination rods with M16 thread					
17 kg	337 mm	**concrete (C45/55)**	**plastic**	1	**102 002**
E MODEL With threaded adapter, for air-termination rods with M16 thread and additional fixing with e.g. spacer					
8.5 kg	240 mm	**concrete (C45/55)**	**plastic**	1	**102 003**

A



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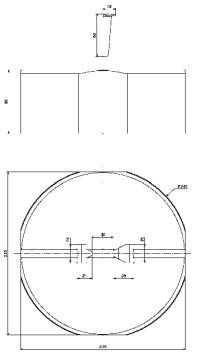

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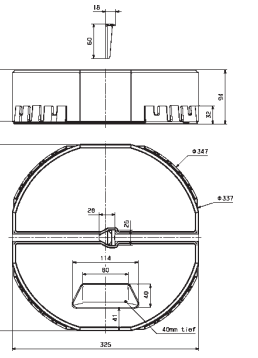

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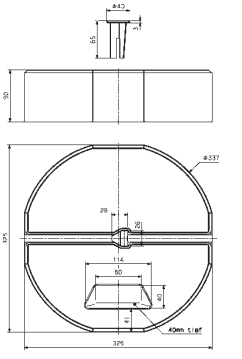

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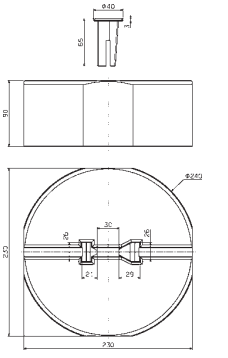


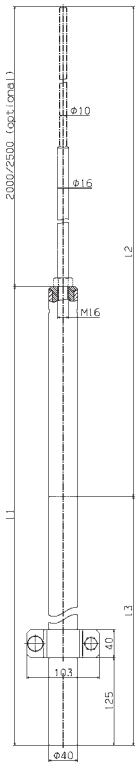
D40 Air-termination Rod

For free lengths up to 5.5 m, for fixing e.g. at walls or other types of constructions.
For combination with air-termination rods Ø16/10 mm, tapered, e.g. length 2000 mm, Part No. 103 221 or length 2500 mm, Part No. 103 231 (to be ordered separately).
The air-termination rods are dimensioned for wind velocities up to 145 km/h (wind load zone II according to DIN 4131).

Components:

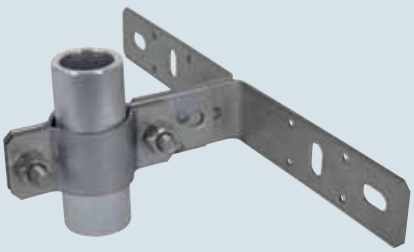
– Pipe Ø40x5 mm with threaded head (M16)
– Lock nut M16
– Earth connection St/tZn with KS connector made of StSt (V2A)

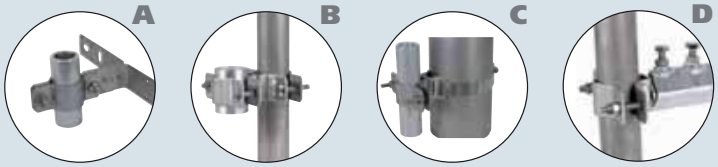
The rods are fixed e.g. at a wall with Part No. 105 140, and at pipes with Part No. 105 354.
The maximum free length refers to the tip of the air-termination rod up to the top support (fixing point).
For reasons of stability, the middle support (3x fixing points) should be installed as close to the top support as possible.
The distance inbetween, however, must not be more than 15 cm.
The bottom support (fixing point) has to be installed in the area of less than or equal to 15 cm at the end of the air-termination rod.

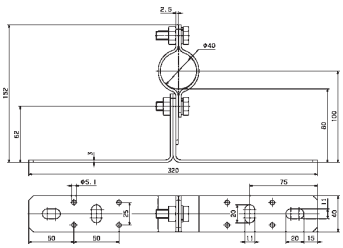


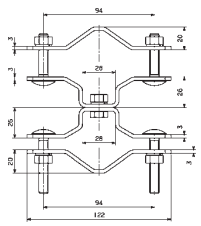
Length (l1) Pipe	Max. free length (l2) with air-termination rod 2000/2500 mm	Free clamping length (l3) with air-termination rod 2000/2500 mm	Quantity of fixings	Rod Material	PU pc(s)	Part No.
2000 mm	3500 / 4000 mm	500 mm	2	Al	1	105 202
3000 mm	4000 / 4500 mm	1000 mm	2	Al	1	105 203
4000 mm	4500 / 5000 mm	1500 mm	3	Al	1	105 214
5000 mm	5500 / 5500 mm	1500 / 2000 mm	3	Al	1	105 215
6000 mm	5500 / 5500 mm	2500 / 3000 mm	3	Al	1	105 216

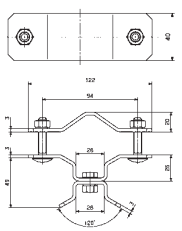
Support for D40 Air-termination Rods

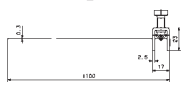








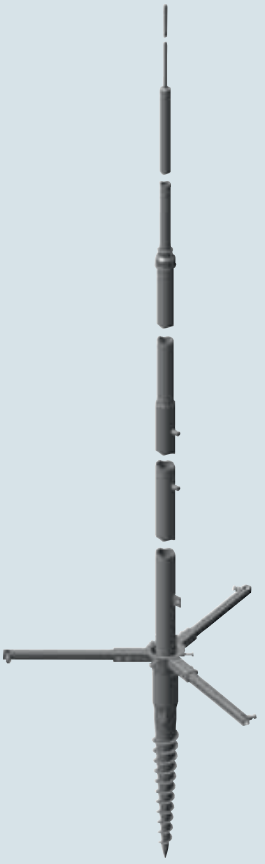




Material	Fixing holes Ø	Wall distance	Clamping range Pipe Ø	Clamping range of air-termination rod	Screw Material	PU pc(s)	Part No.
A MODEL Wall fixing							
StSt	8x5.1 / 4x11 mm	80 mm		40 mm	StSt	1	105 140
B MODEL Rail fixing							
StSt			1 ½ to 2 " 48-60 mm	40 / 50 mm	StSt	5	105 354
C MODEL Fixing clamp with tensioning strap							
StSt			90 - 300 mm	40 mm	StSt	1	105 160
D MODEL Wall mounting bracket adjustable range 400-700 mm							
St/tZn / StSt	12x25 mm	400-700 mm		40-50 mm	StSt	1	105 343

Telescopic Lightning Protection Mast

with Screw-in Foundation



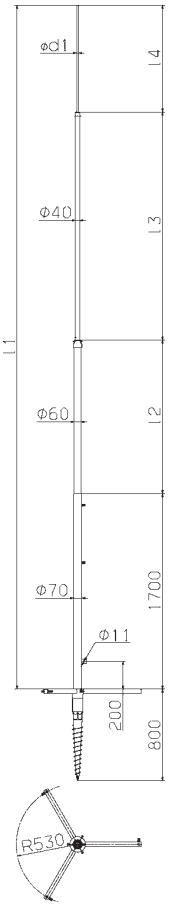
Air-termination mast for protection against direct lightning strokes at special installations, e.g. biogas plants, PV installations on exposed areas.
The masts are set up on a screw-in foundation.
No digging or foundation work is required. The screw-in foundation is simply screwed into soil without requiring special preparation and fixed additionally with earth rods.

The masts are designed for wind velocities up to 145 km/h (wind load zone II according to DIN 4131). These calculations are based on a pressing power of 0.02 kN/cm² of the soil (e.g. loamy soil, sandy soil, gravelly soil with medium density).

Components:

- Air-termination mast out of St/tZn and Al, tapered Ø70/60/40 mm
- Air-termination rod out of Al Ø16/10 mm, length 1 or 2 m with M16 thread
- Screw-in foundation out of St/tZn, length 800 mm with braces, length 530 mm and locking screws M10 with lock nut
- Terminal brackets for earth connection, hole Ø11 mm

For additional fixing of each screw-in foundation, 3 earth rods Ø 20 mm, length 1500 mm are required (to be ordered separately).



Material	Height above ground (l1)	Pipe length Ø70	Pipe length Ø60 (l2)	Pipe length Ø40 (l3)	Air-termination rod (d1) (l4)	PU pc(s)	Part No.
St/tZn / Al	6000 mm	1700 mm	2000 mm	2000 mm	16 / 1000 mm	1	**103 121**
St/tZn / Al	7000 mm	1700 mm	2000 mm	2000 mm	16/10 / 2000 mm	1	**103 122**
St/tZn / Al	8000 mm	1700 mm	4000 mm	2000 mm	16 / 1000 mm	1	**103 123**
St/tZn / Al	9000 mm	1700 mm	4000 mm	2000 mm	16/10 / 2000 mm	1	**103 124**
St/tZn / Al	10000 mm	1700 mm	6000 mm	2000 mm	16 / 1000 mm	1	**103 125**
St/tZn / Al	11000 mm	1700 mm	6000 mm	2000 mm	16/10 / 2000 mm	1	**103 126**

For further details please see also installation instructions No. 1581.

Telescopic Lightning Protection Mast

for Concrete Foundations

Air-termination mast for protection against direct lightning strike of systems such as biogas plants, PV systems on exposed sites, Ex systems, ammunition dumps. This air-termination mast system turns whole systems / areas into strike protected areas (lightning protection zone 0B) without a horizontal air-termination system (spanning of cables) having to be installed.
The separation distance s according to DIN EN 62305-3 between the air-termination mast and the object to be protected has to be kept.
The masts will be set up with a bucket foundation (pre-fabricated element) or an on-site concrete foundation with foundation basket (to be ordered separately). For details on the plug-in system, the foundation and installation see installation instructions No. 1729.
The masts are dimensioned for wind velocities up to 161 km/h (wind load zone III acc. to DIN 4131.

Advantages of the air-termination mast system:

- Digging can be completely finished in advance
- Installation on (prefabricated) bucket foundation with little effort on-site or
- alternatively installation on concrete foundation on site with foundation basket (time of concrete)
  hardening has to be taken into account for scheduling and installation)
- Type with flange plate for quick mounting
- Easy adjustment be threaded bolts M24
- Detailed installation instructions
- Verifiable calculations (upon request)

Components:

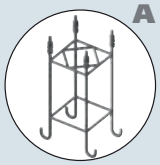
- Air-termination rod St/tZn Ø42/20/10 mm length 2400 or 5400 mm with thread M20 and lock nut
- Conic mast segments
- Flange plate with terminal lug for earth connetion borehole Ø12 mm (for round conductor Ø10 mm e.g. with KS connector Part No. 301 019)

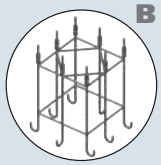
Max. transport length 6 m.

Material	Height above floor (l1)	Segments	Length Air-termination rod (l2)	Dimension Flange Plate	Dimension Concrete Foundation		PU pc(s)	Part No.
St/tZn	13.35 m	2	2400 mm	400x400 mm	1400x1400x900 mm	approx. 230 kg	1	**103 013**
St/tZn	16.35 m	2	5400 mm	400x400 mm	1400x1400x900 mm	approx. 308 kg	1	**103 016**
St/tZn	19.35 m	3	5400 mm	400x400 mm	1400x1400x900 mm	approx. 413 kg	1	**103 019**
St/tZn	22.35 m	4	5400 mm	565x565 mm	1600x1600x900 mm	approx. 548 kg	1	**103 022**
St/tZn	24.85 m	5	5400 mm	565x565 mm	1800x1800x900 mm	approx. 548 kg	1	**103 025**

For further details please see also installation instructions No. 1729. Customised types in other lengths available on request.

Foundation Basket for On-site Concrete Foundation





Material	Dimension (l x w x h)	Type Threaded bolt	PU pc(s)	Part No.
A MODEL				
St	472x324x870 mm	4xM24 (300x300) mm	1	**103 040**
B MODEL				
St	662x662x870 mm	8xM24 (490x490) mm	1	**103 041**

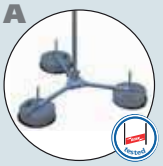
Self-supporting
Air-termination Rod

With hinged tripod for protection of larger roof superstructures, with adjustment to the roof inclination up to max. 10 degrees.
The air-termination rods are dimensioned for wind velocities up to 145 km/h (wind load zone II according to DIN 4131).

The stackable concrete base (Part No. 102 010) and the flat washer (Part No. 102 050) have to be ordered separately.

Components:
- Pipe Ø40 x 5 mm
- Air-termination rod tapered Ø16/10 mm
- Terminal for Rd conductors 6-10 mm
- Tripod for concrete bases with wedge

A



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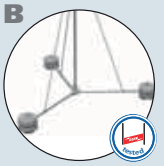
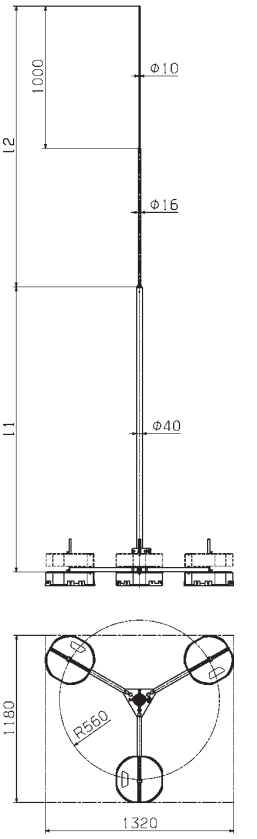


Height	Length (l1) (Ø40x5)	Length (l2) (Ø16/10)	Radius	Required space Tripod	Quantity Concrete bases	Material Tripod	Material Air-term. rod	Standard	PU pc(s)	Part No.
A MODEL										
Available up to a height of 5.5 m										
4000 mm	2000 mm	2000 mm	560 mm	1180x1320 mm	3 pieces	St/tZn	Al	EN 50164-(1+2)	1	**105 400**
4500 mm	2000 mm	2500 mm	560 mm	1180x1320 mm	3 pieces	St/tZn	Al	EN 50164-(1+2)	1	**105 450**
5000 mm	3000 mm	2000 mm	560 mm	1180x1320 mm	6 pieces	St/tZn	Al	EN 50164-(1+2)	1	**105 500**
5500 mm	3000 mm	2500 mm	560 mm	1180x1320 mm	6 pieces	St/tZn	Al	EN 50164-(1+2)	1	**105 550**
B MODEL										
Up to a height of 8.5 m, with adjustable StSt braces Ø10 mm										
6000 mm	4000 mm	2000 mm	1435 mm	2490x2830 mm	6 pieces	St/tZn	Al	EN 50164-(1+2)	1	**105 600**
6500 mm	4000 mm	2500 mm	1435 mm	2490x2830 mm	6 pieces	St/tZn	Al	EN 50164-(1+2)	1	**105 650**
7000 mm	5000 mm	2000 mm	1435 mm	2490x2830 mm	6 pieces	St/tZn	Al	EN 50164-(1+2)	1	**105 700**
7500 mm	5000 mm	2500 mm	1435 mm	2490x2830 mm	6 pieces	St/tZn	Al	EN 50164-(1+2)	1	**105 750**
8000 mm	6000 mm	2000 mm	1435 mm	2490x2830 mm	9 pieces	St/tZn	Al	EN 50164-(1+2)	1	**105 800**
8500 mm	6000 mm	2500 mm	1435 mm	2490x2830 mm	9 pieces	St/tZn	Al	EN 50164-(1+2)	1	**105 850**

For further information please see also installation instructions No. 1436.
Types with shorter transport lengths (separable pipe) available on request.
Application in other wind load zones with the resulting wind velocity on request.

A



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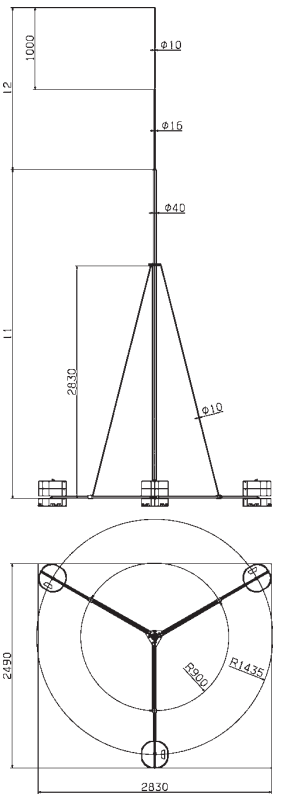
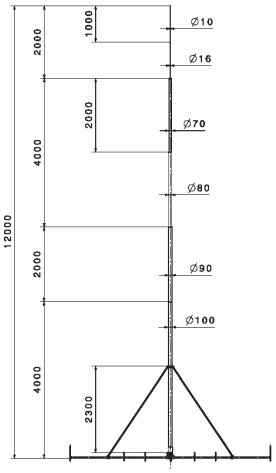
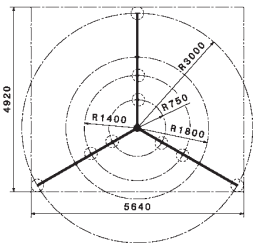


Self-supporting
Air-termination Rod 12/14 m



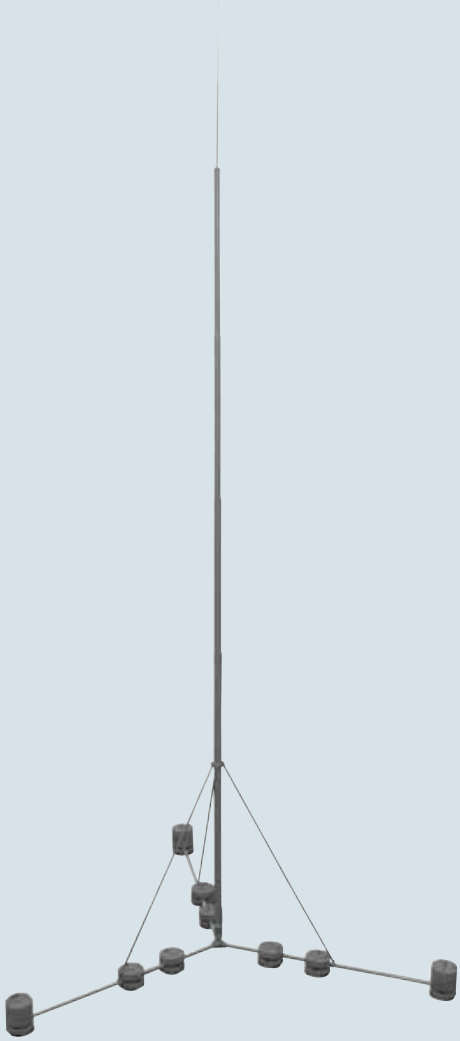


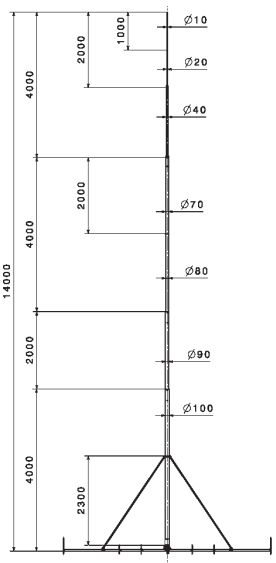
With hinged tripod for protection of larger roof superstructures or for erection on solid ground without foundation works.
Adjustable to the roof inclination up to max. 5°.
The air-termination rods are dimensioned for wind velocities up to 145 km/h (wind load zone II according to DIN 4131).
The stackable concrete base (Part No. 102 010) and the flat washer (Part No. 102 050) have to be ordered separately.

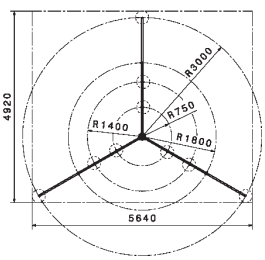
Components:
Aluminium pipe, tapered:

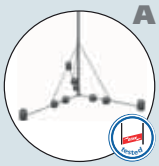
- Pipe Ø100x5 mm, length approx. 4000 mm
- Pipe Ø90x3 mm, length approx. 2000 mm
- Pipe Ø80x3 mm, length approx. 2000 mm
- opt. pipe Ø40x5 mm, length approx. 2000 mm
- Air-termination rod Al
- Terminal for Rd conductors 6-10 mm
- Tripod for concrete bases with wedge including StSt braces 20x20x2 mm

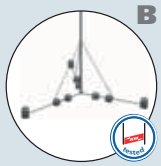
The tapered pipes are to be plugged and finally screwed.
The transport length is approx. 4500 mm











Height mm	Air-termin. rod (Ø-length) mm	Radius mm	Required space Tripod mm	Quantity Concrete bases	Material Tripod	Material Air-termin. rod	Standard	Roof load approx.	PU pc(s)	Part No.
A MODEL Free height 12 m										
12000	16/10-2000	3000	4920x5640	21 pieces	**St/tZn**	Al	EN 50164-(1+2)	460 kg	1	**105 912**
B MODEL Free height 14 m										
14000	20/10-2000	3000	4920x5640	24 pieces	**St/tZn**	Al	EN 50164-(1+2)	515 kg	1	**105 914**

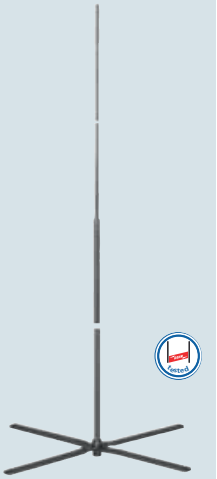
For further information please see also our installation instructions No. 1683

Air-termination Rod
for Metal Roofs

For protection of roof-mounted structures, domelights, etc.

The holes (Ø11 mm) at the ends of the braces allow for fixing on the roof by means of four roof conductor holders. The roof conductor holders have to be chosen according to the roof design (profile: e.g. standing seam, Part No. 365 059, or round standing seam, Part No. 223 010).
Using the four conductor holders (clamps) suitable for the roof profile, the lightning current carrying capability is provided with 100 kA (10/350) (see Figure below).

The air-termination rods are designed for a wind velocity up to 145 km/h (wind load zone II acc. to DIN 4131).



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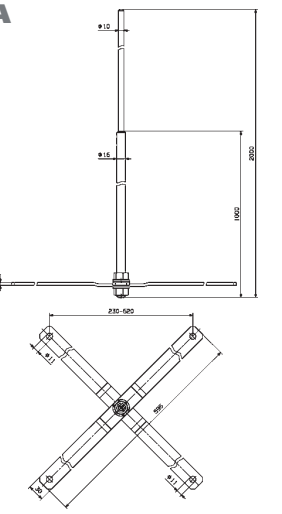

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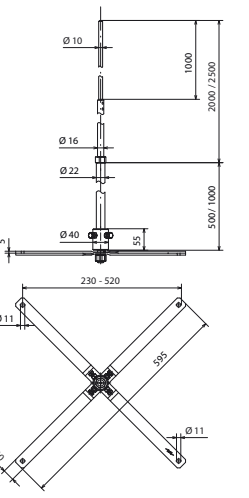
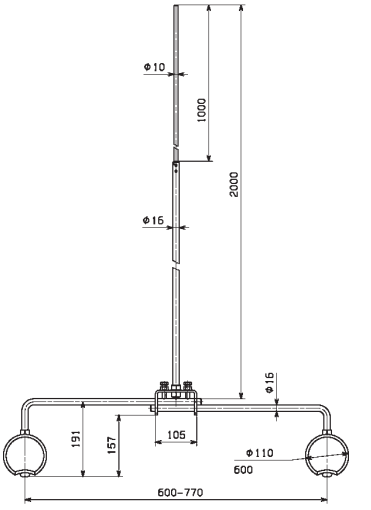


Total length	Length (Ø16)	Length (Ø10)	Profile distance	Fixing holes Ø	Material Air-termin. rod	Material Braces	Material Nut/Washer	Standard	PU pc(s)	Part No.
A MODEL For steel or aluminium conductors										
2000 mm	2000 mm	1000 mm	230-520 mm	11 mm	Al	StSt	StSt	DIN EN 50164-2	1	123 021
B MODEL										
2500 mm	500 mm	1000 mm	230-520 mm	11 mm	Al	StSt	StSt	DIN EN 50164-2	1	123 425
3000 mm	1000 mm	1000 mm	230-520 mm	11 mm	Al	StSt	StSt	DIN EN 50164-2	1	123 430
3500 mm	1000 mm	1000 mm	230-520 mm	11 mm	Al	StSt	StSt	DIN EN 50164-2	1	123 435

Lengths of 1.5 or 2.5 m available on request.

Air Termination Rods
for Trapezoidal Sheeting Roofs

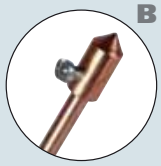
For protection of roof superstructures, domelights, etc.
The air-termination rod is installed into the low point of roofs with trapezoidal sheeting. With the variable basic frame it can be adjusted to any trapezoidal shape.
The special support allows to equalise roof slopes up to 10°.
Due to the integrated protection against slipping, the surface of the roof cannot be damaged.
This air termination rod is dimensioned for wind velocities up to 145 km/h (wind load zone II according to DIN 4131)



Total length	Length (Ø10)	Length (Ø16)	Profile Distance	Air-termination rod Material	Base Material	Brace Material	PU pc(s)	Part No.
2000 mm	1000 mm	1000 mm	600-770 mm	Al	plastic	Al	1	123 031

Air Termination Cap

For capping of air-termination conductors



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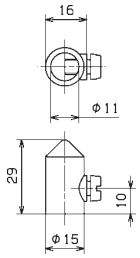

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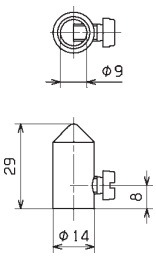
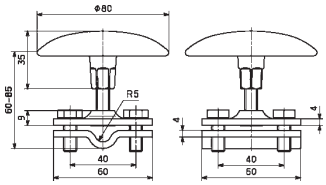


Material	Conductor Rd	Length	Outer Ø	PU pc(s)	Part No.
A MODEL For steel or aluminium conductors					
ZDC	7-10 mm	29 mm	15 mm	50	**110 000**
B MODEL For copper conductors					
Ms/gal Cu	8 mm	29 mm	14 mm	10	**110 017**

Air-termination Stud

For walkable and drivable flat roofs, e.g. parking levels



Clamp Material	Stud Material	Rd/Fl connection	Installation depth	Levelling range	PU pc(s)	Part No.
St/tZn	G-AlMg3	7-10 / 30 mm	min. 60 mm	25 mm	5	**108 001**

For details please see also installation instructions No. 1505

Roof Bushing

For bushing and sealing the roof to install down conductors.

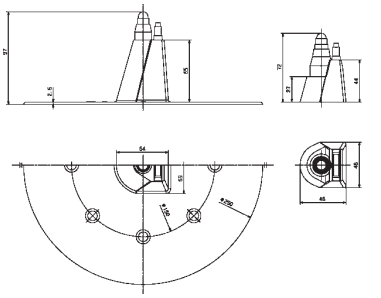
A

B

Material	Colour	Bushings Rd	Bushings Fl	Diameter Ø	PU pc(s)	Part No.
A MODEL For flat roofs (height approx. 113 mm)						
plastic	black	8 / 10 / 16 mm	20x2.5 / 30x3.5 mm	250 mm	25	**552 030**
B MODEL For tiled roofs and corrugated roof sheetings (borehole Ø16 mm)						
plastic	black	8-10 mm		34 mm	25	**552 010**

Note on Part No. 552 030:
For installation heights of more than 100 mm, wrap the roof bushing and conductor with a self-adhesive universal sealing tape (aluminium fixing tape).

A



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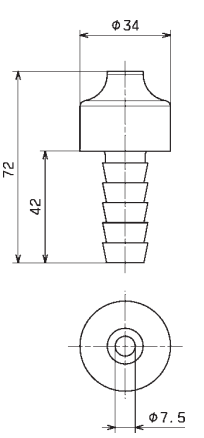


to provide separation distance as required by IEC / EN / BS EN 62305-2

Angled support with saddle clamp

Spacer with attachment, fixing socket and tensioning strap

Supported air-termination system with spacers and concrete bases in the area of the electrical installation on the roof

Variable angled support with pipe clamp

Supported air-termination system with spacers and concrete bases

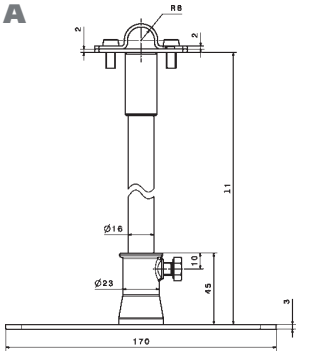
DEHNiso Spacer I

Variable range of supports for conductors and air-termination rods for keeping the separation distance according to EN 62305.
Spacer bar out of glass-fibre reinforced plastic (GRP), Ø16 mm, UV-stabilised, light grey colour
For determining the separation distance (length of the spacer bar), the material factor k_m = 0.7 is used.
1 m spacer bar corresponds to an equivalent clearance of 0.7 m.

CH Rd	CH Material	Length (l1)	Isolating distance	Fixing holes Ø	Material Plate	PU pc(s)	Part No.
A MODEL Spacer with rod holder and fixing plate							
16 mm	StSt	530 mm	445 mm	8x5.1 / 4x7 / 2x11 mm	StSt	1	106 115
16 mm	StSt	690 mm	605 mm	8x5.1 / 4x7 / 2x11 mm	StSt	1	106 120
16 mm	StSt	1030 mm	945 mm	8x5.1 / 4x7 / 2x11 mm	StSt	1	106 123
B MODEL Spacer with conductor holder and fixing plate							
7-10 mm	StSt	530 mm	445 mm	8x5.1 / 4x7 / 2x11 mm	StSt	1	106 090
7-10 mm	StSt	690 mm	605 mm	8x5.1 / 4x7 / 2x11 mm	StSt	1	106 100
7-10 mm	StSt	1030 mm	945 mm	8x5.1 / 4x7 / 2x11 mm	StSt	1	106 105
C MODEL Spacer with DEHNgrip conductor holder and fixing plate, loose conductor leading							
8 mm	StSt	690 mm	605 mm	8x5.1 / 4x7 / 2x11 mm	StSt	1	106 110
D MODEL Spacer for concrete base (Part No. 102 075) with conductor holder DEHNgrip, loose conductor leading							
8 mm	StSt	675 mm	590 mm			1	106 160
E MODEL Spacer for concrete base (Part No. 102 075) with MMV clamp, fixed conductor leading e.g. for crossings							
6-10 mm	StSt	675 mm	590 mm			1	106 150

Types with other spacer bar lengths on request.

A



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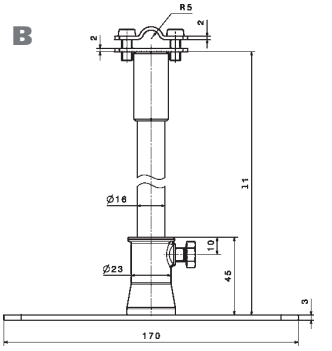

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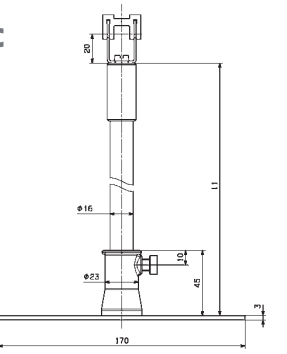

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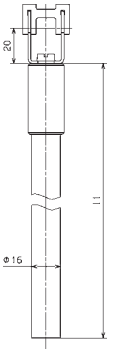

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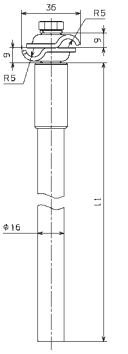
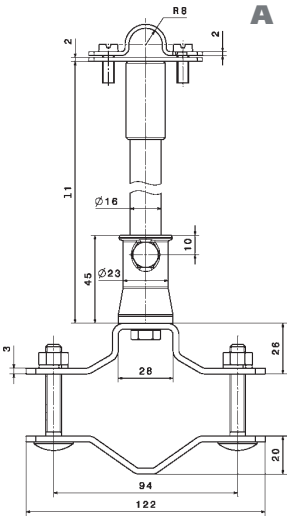
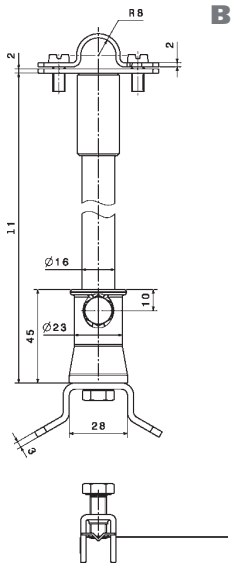
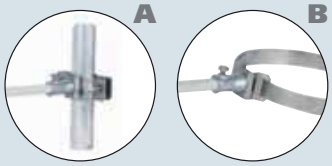






Variable range of supports for air-termination rods to keep the separation distance according to EN 62305

Spacer bar out of glass-fibre reinforced plastic (GRP) Ø16 mm, UV-stabilised, light grey colour
For determination of the separation distance (length of the spacer bar) the material factor k_m = 0.7 is used.
1 m spacer bar corresponds to an equivalent clearance of 0.7 m.



CH Rd	CH Material	Length (l1)	Isolating Distance	Pipe clamping Range Ø	Socket Material	Fixing element Material	PU pc(s)	Part No.
A MODEL Spacer with pipe clamp 1 ½ to 2"								
16 mm	StSt	530 mm	445 mm	1 ½ to 2" 48 - 60 mm	ZDC	StSt	1	106 225
16 mm	StSt	690 mm	605 mm	1 ½ to 2" 48 - 60 mm	ZDC	StSt	1	106 226
16 mm	StSt	1030 mm	945 mm	1 ½ to 2" 48 - 60 mm	ZDC	StSt	1	106 228
B MODEL Spacer with pipe clamp								
16 mm	StSt	530 mm	445 mm	50 - 300 mm	ZDC	StSt	1	106 245
16 mm	StSt	690 mm	605 mm	50 - 300 mm	ZDC	StSt	1	106 246
16 mm	StSt	1030 mm	945 mm	50 - 300 mm	ZDC	StSt	1	106 248

DEHNiso Spacer II

Single Parts

Spacer Bar

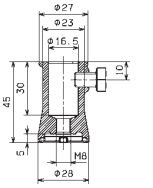
For cutting variable lengths

Material	Colour	Diameter Ø	Length	PU pc(s)	Part No.
GRP	grey	16 mm	3000 mm	1	**106 125**

Mounting Bushing

For variable fixing of conductor and rod holders at the spacer bar (Ø16 mm), with female thread M8

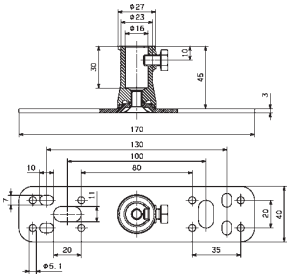
Material Bushing	Female thread	Diameter Ø	Screw	Material Screw	PU pc(s)	Part No.
ZDC	M8	23 mm	M8x12 mm	StSt	20	**106 126**



Fixing Plate

Base plate for fixing the distance holder or spacer bar (Ø16 mm), e.g. at parts of the construction

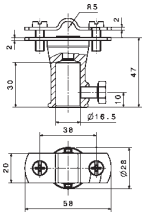
Material Base plate	Material Bushing	Fixing holes Ø	Dimension (l x w x t)	Screw	Material Screw	PU pc(s)	Part No.
StSt	ZDC	8x5.1 / 4x7 / 2x11 mm	170x40x3 mm	M8x12 mm	StSt	20	106 127



Conductor Holder with Mounting Bushing

For fixing of conductors at the GRP bar

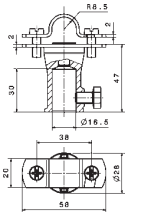
CH Material	CH Rd	Material mounting bush	Conductor leading	Screw	Material Screw	PU pc(s)	Part No.
StSt	7-10 mm	ZDC	fixed	M6x14 / M8x12 mm	StSt	20	106 128



Rod Holder with Mounting Bushing

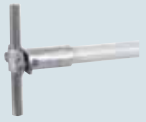
For fixing air-termination rods at the GRP bar

CH Material	CH Rd	Material Mounting bush	Conductor leading	Screw	Material Screw	PU pc(s)	Part No.
StSt	16 mm	ZDC	fixed	M6x14 / M8x12 mm	StSt	20	106 129

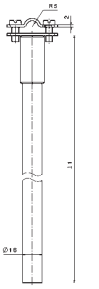


Spacer with Rod or Conductor Holder

For fixing conductors on different base parts, fixed conductor leading



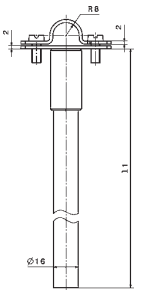
CH Rd	CH Material	Length (l1)	Isolating distance	Material Bushing	PU pc(s)	Part No.
7-10 mm	StSt	515 mm	435 mm	Al	1	106 165
7-10 mm	StSt	675 mm	595 mm	Al	1	106 170
7-10 mm	StSt	1015 mm	935 mm	Al	1	106 175



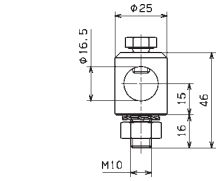
Spacer with Rod or Conductor Holder

For fixing air-termination rods on different base parts, fixed conductor leading

CH Rd	CH Material	Length (l1)	Isolating distance	Material Bushing	PU pc(s)	Part No.
16 mm	StSt	515 mm	435 mm	Al	1	106 178
16 mm	StSt	675 mm	595 mm	Al	1	106 180
16 mm	StSt	1015 mm	935 mm	Al	1	106 185



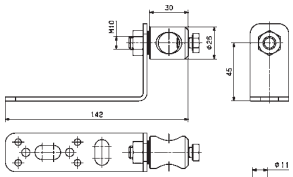
Single Parts



Clamping Bolt

Threaded (M10), nut, toothed lock washer and screw for support of the spacer bar

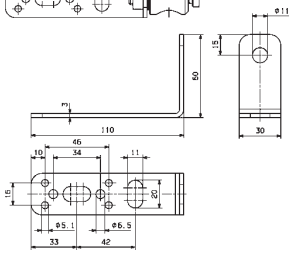
Material Bolt	Clamping range Rd	Screw	Material Screw/Nut	PU pc(s)	Part No.
Al	16 mm	M8x12 mm	StSt	20	106 301
StSt	16 mm	M8x12 mm	StSt	20	106 309



Mounting Bracket

With clamping bolt for spacer bar (Ø16 mm)

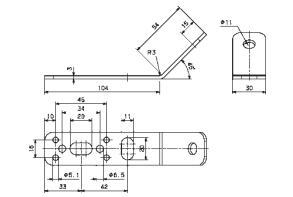
Material	Angle	Fixing holes Ø	Dimension (l x w x h)	PU pc(s)	Part No.
StSt	90 °	4x5.1 / 2x6.5 / 2x11 mm	110x60x30 mm	20	106 311



Mounting Bracket

For DEHNiso and DEHNiso Combi, hole Ø11 mm

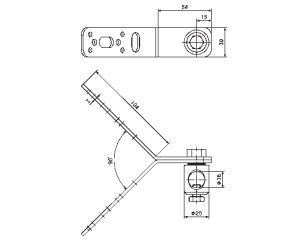
Material	Angle	Fixing holes Ø	Dimension (l x w x h)	PU pc(s)	Part No.
StSt	90 °	4x5.1 / 2x6.5 / 2x11 mm	110x60x30 mm	20	106 310



Mounting Bracket

For DEHNiso, hole Ø11 mm

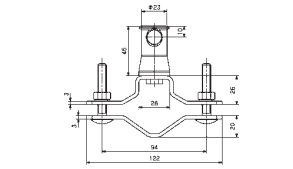
Material	Angle	Fixing holes Ø	Dimension (l x w x h)	PU pc(s)	Part No.
StSt	45 °	4x5.1 / 2x6.5 / 2x11 mm	104x54x30 mm	20	106 315



Y-shaped Mounting Bracket

With clamping bolt for spacer bar (Ø16 mm)

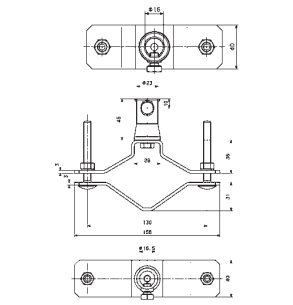
Material	Angle	Fixing hole Ø	Dimension (l x w x h)	PU pc(s)	Part No.
StSt	90 °	8x5.1 / 4x6.5 / 4x11 mm	132x155x30 mm	20	106 316



Pipe Clamp

With fixing socket connector for spacer bar (Ø16 mm), for pipes up to 2"

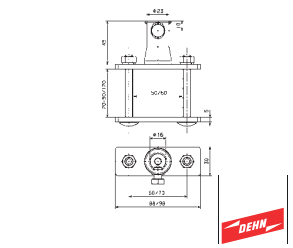
Material Clamp	Clamping range Ø pipe		Material Bushing	Screw	Material Screw/Nut	PU pc(s)	Part No.
StSt	1 ½ - 2"	48-60 mm	ZDC	M8x50 / M8x12 mm	StSt	10	106 352



Pipe Clamp

With fixing socket connector for spacer bar (Ø16 mm), for pipes up to 3"

Material Clamp	Clamping range Ø pipe		Material Bushing	Screw	Material Screw/Nut	PU pc(s)	Part No.
StSt	2 ¼ - 3"	70-90 mm	ZDC	M8x70 / M8x12 mm	StSt	10	106 353



Fixing Equipment for Railings

For square hollow profiles with sleeve for spacer bar

Material	Clamping range Square profile	Screw	Material Screw	PU pc(s)	Part No.
ZDC / StSt	20x20 to 50x50 mm	M8x70 / M8x12 mm	StSt	5	106 312

DEHNiso Spacer II

Single Parts

Clip for fixing Spacers at Pipes

Fixing with tensioning straps up to 30 mm (e.g. tensioning strap 25 x 0.3 mm with grip head, Part No. 106 323), with clamping bolt

Material Clip	Material Bolt	Slot (l x w)	PU pc(s)	Part No.
StSt	Al	32x6 mm	10	106 321

Attachment with Mounting Bushing

For fixing distance holders at pipes, e.g. with tensioning strap, Part No. 106 323

Material	Slot (l x w)	Clamping range Rd	Material Bushing	PU pc(s)	Part No.
StSt	26x6 mm	16 mm	ZDC	10	106 322

Pipe Clamp for Attachment and Clip

For fixing (tensioning) the clip (Part No. 106 321) or the attachment with mounting bushing (Part No. 106 322) at different pipes

Material Head/Strap	Clamping range Ø	Strap (l x w x d)	Screw	Material Screw	PU pc(s)	Part No.
StSt	50 - 300 mm	1100x25x0.3 mm	M8x20 mm	StSt	10	106 323

Pipe Clamp for Attachment and Clip

Separate grip head, for combination with endless tensioning strap (Part No. 540 901) for greater pipe diameters, e.g. for attachment with mounting bushing (Part No. 106 322)

Material Head/Strap	Strap (l x w x d)	Screw	Material Screw	PU pc(s)	Part No.
StSt	for 25x0.3 mm	M8x20 mm	StSt	20	106 324

Earthing Pipe Clamp

Endless tensioning strap (100 m long)

Material	Dimension Strap (l x w x d)	PU pc(s)	Part No.
StSt	... x25x0.3 mm	1	540 901

Adapter for Angled Support

For air-termination rods (Ø16 mm), with 2 clamping bolts for spacer bar (Ø16 mm)

Material	Clamping range Rd	Screw	Material Screw/Nut	PU pc(s)	Part No.
StSt	16/16 mm	M6x12 / M8x12 mm	StSt	10	106 325

Adapter for Angled Support

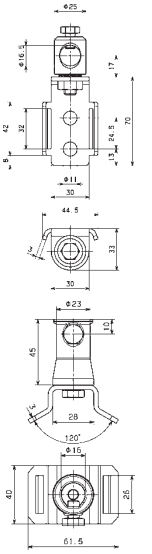
For DEHNiso Combi supporting tube (Ø50 mm), with 2 clamping bolts for spacer bar (Ø16 mm)

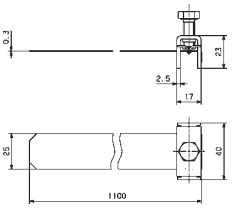
Material	Clamping range Rd	Screw	Material Screw/Nut	PU pc(s)	Part No.
StSt	50/16 mm	M8x12 mm	StSt	10	106 326

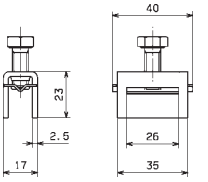
Fixing Adapter

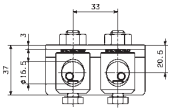
For saddle clamps and terminals, angled

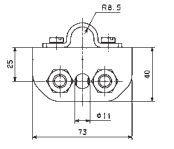
Fixing rod	Rod Ø	Angle	Socket conn. material	PU pc(s)	Part No.
StSt	8 mm	90 °	ZDC	20	106 341

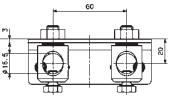


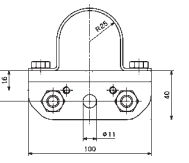


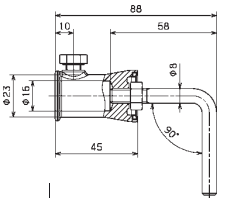


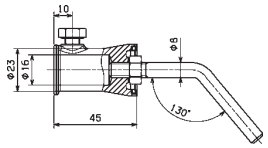


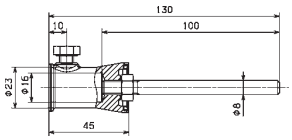


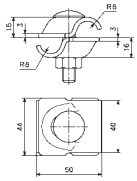


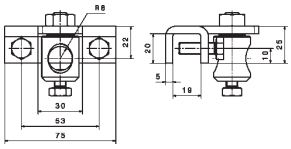












Fixing Adapter

For saddle clamps and terminals, angled

Fixing rod	Rod Ø	Angle	Socket conn. material	PU pc(s)	Part No.
StSt	8 mm	130 °	ZDC	20	106 342

Fixing Adapter

For saddle clamps and terminals, straight

Fixing rod	Rod Ø	Angle	Material Bushing	PU pc(s)	Part No.
StSt	8 mm	0 °	ZDC	20	106 340

MV Clamp

Especially for fixing air-termination rods at the spacer bar without mounting bushing

Material	CH Rd	Conductor leading	Screw	Material Screw	PU pc(s)	Part No.
StSt	16/16 mm	fixed	M10x50 mm	StSt	50	393 069

Connecting Clamp with Fixing Bolt

For fixing of spacers Ø 16 mm e.g. at steel joists

Material Clamp	Clamping range	Clamping range Rd	Material Fixing bolt	Screw	PU pc(s)	Part No.
StSt	5-18 mm	16 mm	Al	M8x25 mm	25	106 319

DEHNiso Combi

Isolated air-termination system for roof superstructures

Mounting brackets for supporting tubes

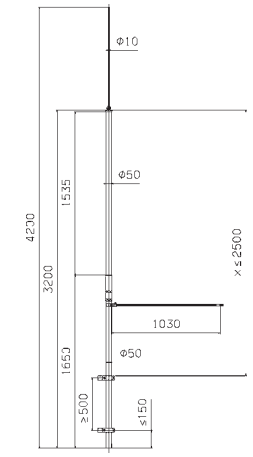
Spacers at supporting tube

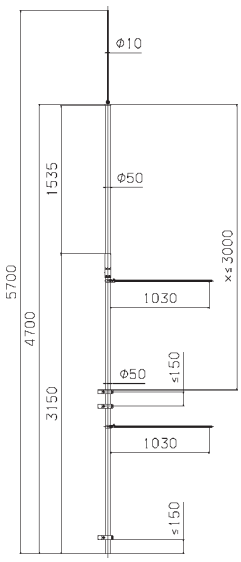
Isolated air-termination system DEHNiso-Combi and HVI® conductor in the supporting tube

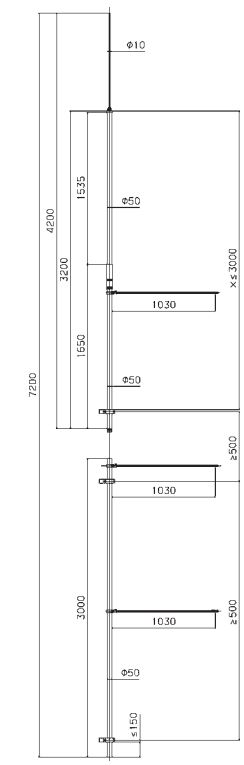
DEHNiso Combi Set

Components for isolated air-termination systems (insulated) for protection of larger roof superstructures, e.g. air-conditioning systems, recooling plants, etc. For keeping of the separation distance to electrically conductive parts according to EN 62305-3 (VDE 0185-305-3).

For determination of the separation distance (length of the spacer bar) the material factor $k_m = 0.7$ is used. 1 m spacer bar corresponds to an equivalent clearance of 0.7 m.







Total length	Quantity Spacers	Quantity Angled fixing plate	Length Supporting tube	Material Supporting tube	PU pc(s)	Part No.
A MODEL Single-part unit, total length 4200 mm consisting of 1x air-termination tip Al, L = 1000 mm (Part No. 105 071) 1x supporting tube GRP/Al, L = 3200 mm (Part No. 105 300) 2x wall mounting bracket StSt (Part No. 105 340) 1x spacer GRP/Al, L = 1030 mm (Part No. 106 331)						
4200 mm	1	2	3200 mm	GRP / Al	1	**105 440**
B MODEL Single-part unit, total length 5700 mm consisting of 1x air-termination tip Al, L = 1000 mm (Part No. 105 071) 1x supporting tube GRP/Al, L = 4700 mm (Part No. 105 301) 3x wall mounting bracket StSt (Part No. 105 340) 2x spacer GRP/Al, L = 1030 mm (Part No. 106 331)						
5700 mm	2	3	4700 mm	GRP / Al	1	**105 455**
C MODEL 2-part unit, total length 7200 mm (transport length 3200 mm) consisting of 1x air-termination tip Al, L = 1000 mm (Part No. 105 071) 1x supporting tube GRP/Al, L = 6200 mm (Part No. 105 302) 3x wall mounting bracket StSt (Part No. 105 340) 3x spacer GRP/Al, L = 1030 mm (Part No. 106 331)						
7200 mm	3	3	6200 mm	GRP / Al	1	**105 470**

For further details, please see also installation instructions No. 1475.

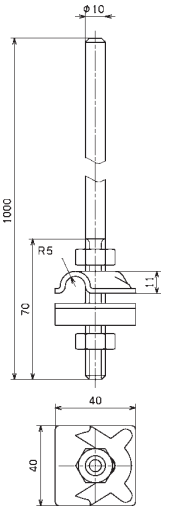
DEHNiso Combi I

Components for separate (isolated) air terminations for protection of large roof superstructures, e.g. air conditioning systems, recooling systems, etc.
For further information please see also installation instructions No. 1475.

Air-termination Tip with MV Clamp

For screwing into the top of the supporting tube and for fixing the air termination conductors (wires and cables)
with M10 thread

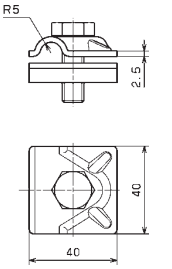
Tip Material	Material MV clamp	Tip (l x Ø)	Clamping range Rd	Thread	PU pc(s)	Part No.
Al	StSt	1000 mm	8-10 mm	10	1	105 071



MV Clamp for Spanning

For screwing into the top of the supporting tube in order to support spanning

Material	Clamping range Rd	Screw	Screw Material	PU pc(s)	Part No.
StSt	8-10 mm	M10x30	StSt	1	105 079



Supporting Tube GRP/Al

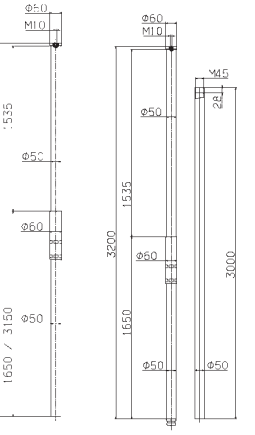
For isolated construction of air-termination systems and fixing of the HVI® conductor.

Single-part unit

Material Supporting tube	Length Supporting tube	Outer Ø	Transport length	Isolating clearance	PU pc(s)	Part No.
GRP / Al	3200 mm	50 mm	3200 mm	1535 mm	1	105 300
GRP / Al	4700 mm	50 mm	4700 mm	1535 mm	1	105 301

2-part unit

Material Supporting tube	Length Supporting tube	Transport Outer Ø	Isolating length	PU clearance	Part pc(s)	No.
GRP / Al	6200 mm	50 mm	3200/3000 mm	1535 mm	1	105 302

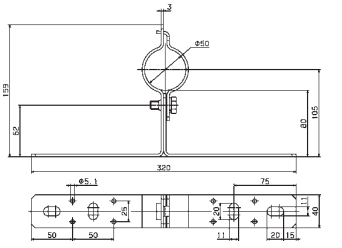


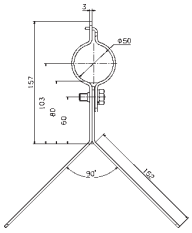
Mounting Bracket

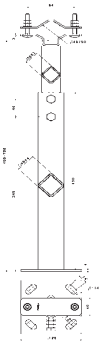
For fixing the supporting tubes at the construction to be protected or at walls

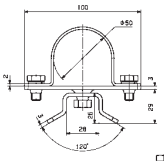
For wall mounting

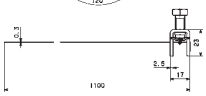
Material Bracket	Fixing holes Ø	Length	Clamping range Supporting tube	Wall / Angle distance	Screw Material	PU pc(s)	Part No.
StSt	8x5.2 / 4x11 mm	320 mm	50 mm	80 mm	StSt	1	105 340

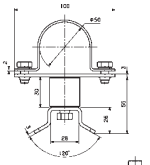


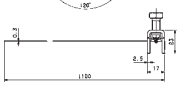


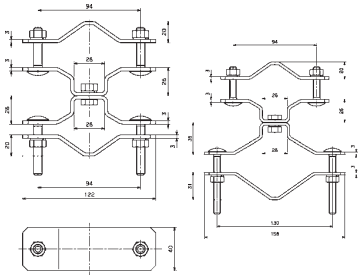


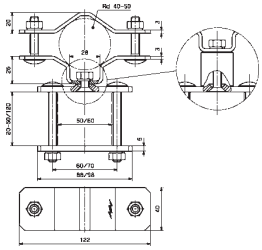


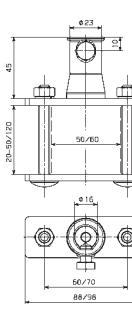












Mounting Bracket

For fixing the supporting tubes at the construction to be protected or at walls

Y-shape angled fixing plate

Material Bracket	Fixing holes Ø	Length	Clamping range Supporting tube	Wall / Angle distance	Screw Material	PU pc(s)	Part No.
StSt	8x5.2 / 4x11 mm	150 mm	50 mm	80 mm	StSt	1	105 341

Mounting Bracket

Wall mounting bracket, adjusting range 400-700 mm,
for fixing of the supporting tubes or air-termination rods D40/D50

Material Bracket	Clamping range Supporting tube	Wall / Angle distance	Length Dimension	Fixing holes Ø	Profile mm	PU pc(s)	Part No.
St/tZn / StSt	40-50 mm	400-700 mm	120x120x4 mm	12x25 mm	40x40x4 / 30x30x3	1	105 343

Fixing Clamp with Tensioning Strap

For fixing the supporting tubes at construction elements, e.g. antenna masts

Clip Material	Clamping range	Material Tensioning strap	Screw Material	PU pc(s)	Part No.
StSt	50 - 300 mm	StSt	StSt	1	105 360

Fixing Clamp with Tensioning Strap

With additional spacer in order to adjust supports of sector antennas at masts

Clip Material	Clamping range	Material Tensioning strap	Screw Material	Spacer	PU pc(s)	Part No.
StSt	50 - 300 mm	StSt	StSt	30 mm (Al)	1	105 361

Fixing Equipment for Railings

For fixing the supporting tubes at construction elements, e.g. railing pipes

For pipes

Material	Clamping range Ø pipe		Screw	Screw Material	PU pc(s)	Part No.
StSt	1 ½ to 2 "	48-60 mm	M8x40 / M8x50	StSt	5	105 354
StSt	2 ¼ to 3 "	70-90 mm	M8x40 / M8x70	StSt	5	105 355

Fixing Equipment for Railings

For square hollow profiles

Part No. 105 377 with additional spacer, length 53 mm

Material	Clamping range Square profile	Screw	Material Screw	Clamping range Supporting tube	PU pc(s)	Part No.
StSt	20x20 to 50x50 mm	M8x40 / M8x70 mm	StSt	40 - 50 mm	5	105 356
StSt	60x120 mm	M8x40 / M8x150 mm	StSt	40 - 50 mm	5	105 376
StSt	60x120 mm	M8x40 / M8x150 mm	StSt	40 - 50 mm	5	105 377

Fixing Equipment for Railings

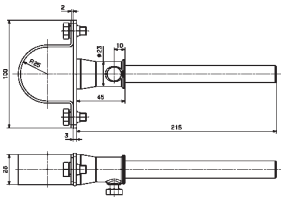
For square pipes with socket for distance rod and clamp (Part No. 106 121)

Material	Clamping range Square profile	Screw	Screw Material	PU pc(s)	Part No.
ZDC / StSt	20x20 to 50x50 mm	M8x70 / M8x12	StSt	5	106 312

Fixing Equipment for Railings

Clamp for supporting tube with spacer bar (Ø16 mm, length 200 mm), for fixing the supporting tubes, e.g. at projections

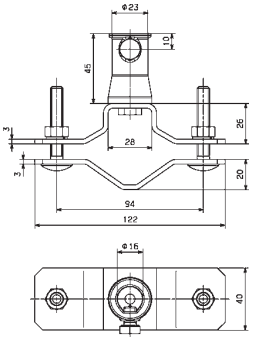
Material	Screw	Screw Material	PU pc(s)	Part No.
StSt	M8x16	StSt	1	106 121



Pipe Clamp

With mounting bushing for spacer bar (Ø16 mm), for pipes up to 2"

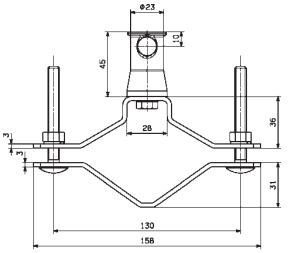
Clamp Material	Clamping range Ø pipe	Material Bushing	Screw	Screw/Nut Material	PU pc(s)	Part No.
StSt	1 ½ - 2 " 48-60 mm	ZDC	M8x50 / M8x12 mm	StSt	10	106 352



Pipe Clamps

With mounting bushing for spacer bar (Ø16 mm), for pipes up to 3"

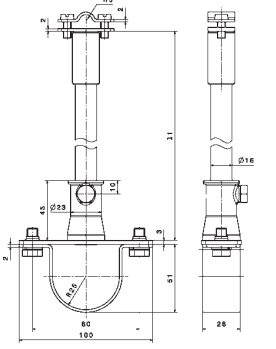
Clamp Material	Clamping range Ø pipe	Material Bushing	Screw	Screw/Nut material	PU pc(s)	Part No.
StSt	2 ¼ - 3 " 70-90 mm	ZDC	M8x70 / M8x12 mm	StSt	10	106 353



Spacer for Supporting Tubes

For fixing the conductor at the supporting tube and for keeping of the separation distance according to EN 62305
For insulated fixing of the conductor at the supporting tube, clamping range: 50 mm

Material Spacer	Material Fixing element	CH Material	CH Rd	CH Height	Length	Isolating distance	Clamping range Supporting tube	Part No.
GRP	StSt	StSt	7-10 mm	20	690 mm	605 mm	50 mm	106 328
GRP	StSt	StSt	7-10 mm	20	1030 mm	945 mm	50 mm	106 331



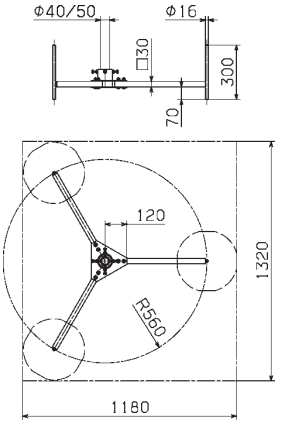
Tripod for HVI Conductor in Supporting Tube

Special type for HVI Conductor integrated in the supporting tube (length 3200 mm).

In order to keep the bending radius of the HVI Conductor at the bottom of the tripod, 2 concrete bases are installed below and one above the limb.

The stackable concrete base (Part No. 102 010) and the flat washer (Part No. 102 050) have to be ordered separately.

Material Tripod	Support	Quantity bases	Radius	Required space Tripod	PU pc(s)	Part No.
St/tZn	40/50 mm	6/9 pieces	560 mm	1180x1320 mm	1	105 200



DEHNconductor System

To avoid dangerous flashovers between parts of the external lightning protection system and internal conductive parts (electrical installation, piping, etc.), keeping of the **separation distance s** is an important requirement to be considered when designing and installing a lightning protection system.
Keeping of the **separation distance s** is often a problem for new and existing installations. The HVI® conductor of the ''DEHNconductor System" range is an innovative and easy solution of this problem and requirement.

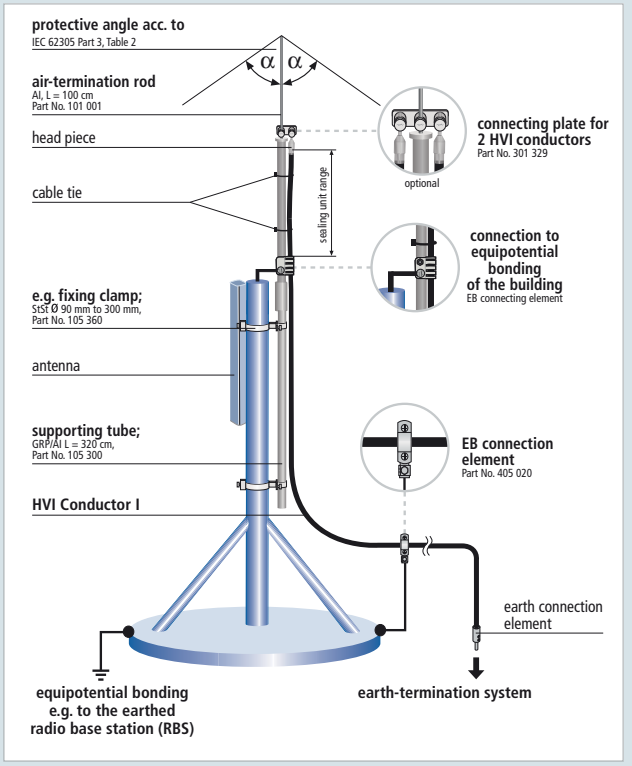
Function of the HVI® conductor:
Without additional protective measures, high impulse voltages cause flashovers on surfaces of insulating materials. This effect is known as a creeping flashover. If the so-called creepage discharge inception voltage is exceeded, a surface sparkover is initiated that can range over a distance of some metres without problem.

To avoid creepage discharges, the new HVI® conductor is supplied with a special external coating that allows to "redirect" high "lightning impulse voltages" to a reference potential. For this purpose, the external semiconductive coating is connected with the equipotential bonding of the building (free of lightning currents) in the area of the sealing end. This connection to the equipotential bonding can be performed, for example, at metal earthed roof-mounted elements situated in the protection area of the lightning protection system, at earthed parts of the building construction, which are free of lightning currents, or at the protective conductor of the low voltage system.
No metal parts may be situated within s**eparation distance s** from the sensitive sealing end area.

Isolated air-termination system for recooling plant with HVI® conductor in the supporting tube

HVI® conductor in the supporting tube

DEHNconductor System



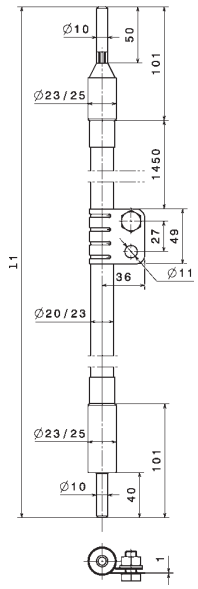
Fixing clamp with tensioning strap for supporting tubes

Isolated air-termination system at a roof superstructure with HVI® conductor

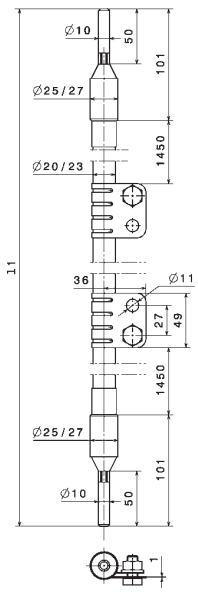
HVI® conductor – parallel leading with terminal clamp Part No. 301 329

HVI® Conductor

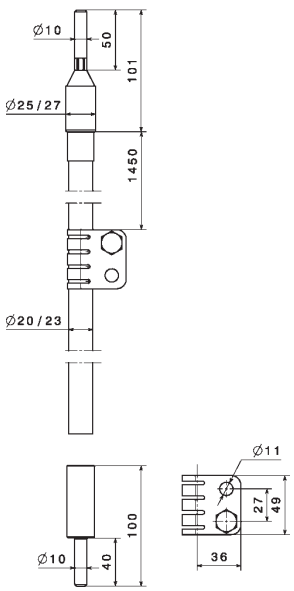
A



B



C



HVI® conductor, high-voltage-resistant insulated down conductor for keeping the separation distance from conductive parts according to DIN EN 62305-3 (VDE 0185-305-3)

Equivalent separation distance s ≤ 0.75 m (in air) or s ≤ 1.5 m (solid building material).

Patent No. DE 10228665

Patent No. DE 10233528B4

The HVI® conductor fulfils the requirements according to EN 50164-2 (VDE 0185-202).

Minimum order length: 4 m; please confirm the length required when placing your order.

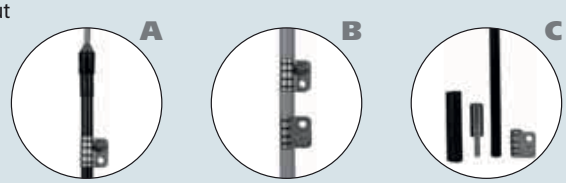
3 different types of HVI® conductor are available:

HVI® conductor I can be used for connecting the air-termination system of the external lightning protection system directly to the earthing system of the building.

HVI® conductor II is used for connecting e.g. several parts of the installation to be protected, not individually but together, to the earthing system of the building by means of an "isolated ring conductor".

HVI® conductor III with a fixed sealing end and sealing end to be established on site, is usually used where the total conductor length cannot be defined exactly when designing the installation. HVI® conductor III can be used just like HVI® conductor II.

HVI® Conductors I and III may be shortened but not extended.

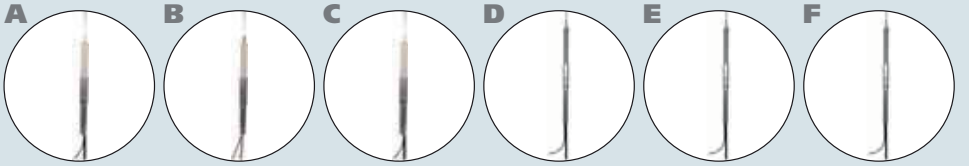


Material Conductor	Material Insulation	Matrial Coating	Colour Conductor	Cross section Core	Outer Ø Conductor	PU pc(s)	Part No.
A MODEL							
HVI® Conductor I							
with one head piece, one EB connection element and one earth connection element							
Cu	PE	PVC	black	19 mm²	20 mm	1	**819 020**
Cu	PE	PVC	grey	19 mm²	23 mm	1	**819 023**
B MODEL							
HVI® Conductor II							
with two head pieces and two connection elements for equipotential bonding							
Cu	PE	PVC	black	19 mm²	20 mm	1	**819 021**
Cu	PE	PVC	grey	19 mm²	23 mm	1	**819 024**
C MODEL							
HVI® Conductor III							
with one head piece, one connection element and two connection elements for equipotential bonding. One EB connection element and one connection element are loosely included in delivery							
Cu	PE	PVC	black	19 mm²	20 mm	1	**819 022**
Cu	PE	PVC	grey	19 mm²	23 mm	1	**819 025**

For further information about the DEHNconductor system please see also installation instructions No. 1566.
For being a customised product (customised finishing of the conductor length), please understand that the conductors cannot be returned.

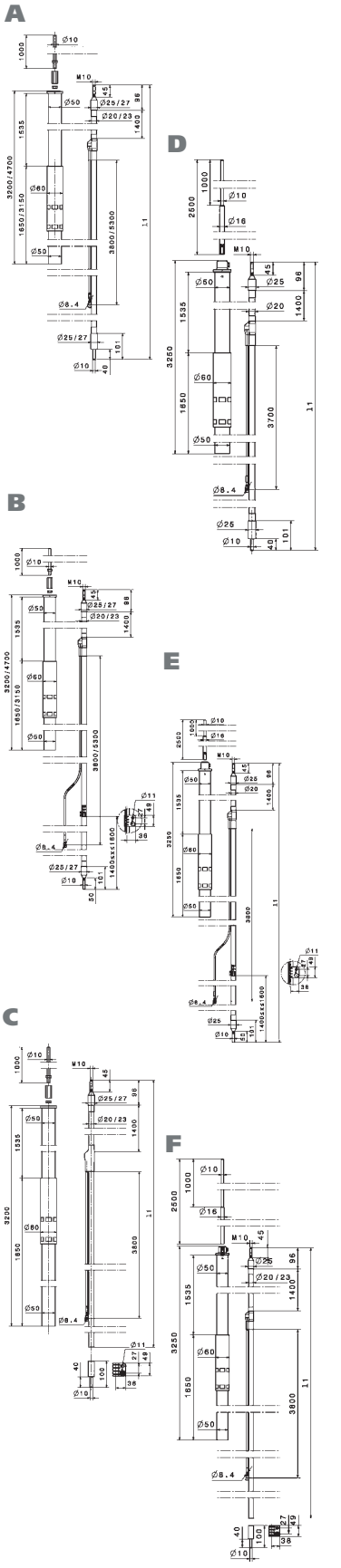
HVI® Conductor in Supporting Tube

HVI® conductor installed in the supporting tube fits optically and has small wind exposed surface.



Material Conductor	Material Supporting tube	Length Supporting tube	Colour conductor	Outer Ø conductor	Minimum order length (l1)	PU pc(s)	Part No.
A MODEL							
HVI® Conductor I							
Installed in the supporting tube, with special internal sealing end and air-termination tip, Ø10 mm, length 1000 mm							
Cu	GRP / Al	3200 mm	black	20 mm	6 m	1	**819 320**
Cu	GRP / Al	3200 mm	grey	23 mm	6 m	1	**819 323**
Cu	GRP / Al	4700 mm	black	20 mm	8 m	1	**819 420**
Cu	GRP / Al	4700 mm	grey	23 mm	8 m	1	**819 423**
B MODEL							
HVI® Conductor II							
Installed in the supporting tube, with special internal sealing end and air-termination tip Ø10 mm, length of 1000 mm							
Cu	GRP / Al	3200 mm	black	20 mm	6 m	1	**819 321**
Cu	GRP / Al	3200 mm	grey	23 mm	6 m	1	**819 324**
C MODEL							
HVI® Conductor III							
Installed in the supporting tube, with special internal sealing end and air-termination tip, Ø10 mm, length 1000 mm							
Cu	GRP / Al	3200 mm	black	20 mm	6 m	1	**819 322**
Cu	GRP / Al	3200 mm	grey	23 mm	6 m	1	**819 325**
Cu	GRP / Al	4700 mm	black	20 mm	8 m	1	**819 422**
Cu	GRP / Al	4700 mm	grey	23 mm	8 m	1	**819 425**
D MODEL							
HVI® Conductor I							
Installed in the supporting tube, with special internal sealing end and air-termination tip Ø16/10 mm, length 2500 mm							
Cu	GRP / Al	3200 mm	black	20 mm	6 m	1	**819 360**
E MODEL							
HVI® Conductor II							
Installed in the supporting tube, with special internal sealing end and air-termination rod Ø16/10 mm, length 2500 mm							
Cu	GRP / Al	3200 mm	black	20 mm	6 m	1	**819 361**
F MODEL							
HVI® Conductor III							
Installed in the supporting tube, with special internal sealing end and air-termination rod Ø16/10 mm, length 2500 mm							
Cu	GRP / Al	3200 mm	black	20 mm	6 m	1	**819 362**

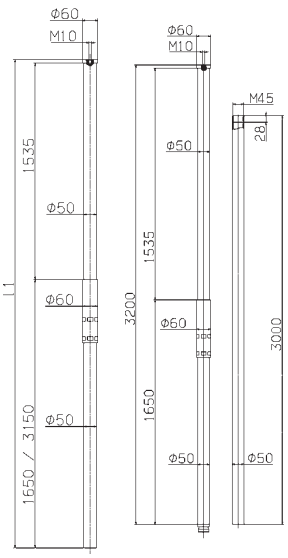
Minimum order length 6 or 8 m, please indicate the conductor length required when placing your order.
For being customised products (customized finishing of the conductor length), please understand that the conductors cannot be returned.



Air-termination Tip with Lock Nut

For screwing into the head of the supporting tube and for connecting the HVI® conductor

Material	Diameter Ø	Length	Thread	Material Nut	Standard	Id. No.	PU pc(s)	Part No.
Al	10 mm	1000 mm	M10	StSt	DIN EN 50164-2		1	101 001



Supporting Tube GRP/Al

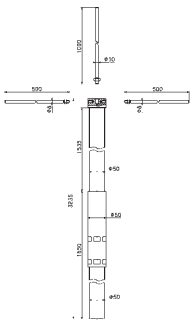
For isolated construction of air-termination systems and fixing of the HVI® conductor

Single-part unit

Material Supporting tube	Length Supporting tube	Outer Ø	Transport length	Isolating clearance	PU pc(s)	Part No.
GRP / Al	3200 mm	50 mm	3200 mm	1535 mm	1	105 300
GRP / Al	4700 mm	50 mm	4700 mm	1535 mm	1	105 301

2-part unit

Material Supporting tube	Length Supporting tube	Outer Ø	Transport length	Isolating clearance	PU pc(s)	Part No.
GRP / Al	6200 mm	50 mm	3200/3000 mm	1535 mm	1	105 302



Supporting Tube GRP/Al

For isolated construction of air-termination systems and fixing the HVI® conductor.
Single-part unit with air-termination tips on the side, D8 mm, length 500 mm, StSt (V2A)

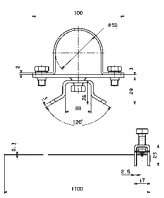
Material Supporting tube	Length Supporting tube	Outer Ø	Transport length	Isolating clearance	PU pc(s)	Part No.
GRP / Al	3235 mm	50 mm	3235 mm	1535 mm	1	105 310

Supporting Tube GRP/Al

For isolated construction of air-termination systems and fixing of the HVI® conductor.

Single-part unit combined with air-temination rod D16/10 mm, length 2500 mm

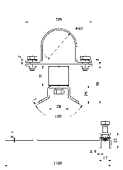
Material Supporting tube	Length of insulating pipe	Outer Ø	Transport length	Isolating clearance	PU pc(s)	Part No.
GRP / Al	3200 mm	50 mm	3200 mm	1535 mm	1	105 306



Fixing Clamp with Tensioning Strap

For fixing the supporting tubes at construction elements, e.g. antenna masts

Clip Material	Clamping range	Material Tensioning strap	Screw Material	PU pc(s)	Part No.
StSt	50 - 300 mm	StSt	StSt	1	105 360

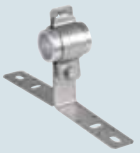


Fixing Clamp with Tensioning Strap

With additional spacer in order to adjust supports of sector antennas at masts

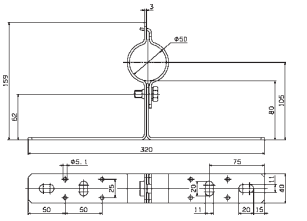
Clip Material	Clamping range	Material Tensioning strap	Screw Material	Spacer	PU pc(s)	Part No.
StSt	50 - 300 mm	StSt	StSt	30 mm (Al)	1	105 361

Mounting Bracket



For fixing of the supporting tubes at the construction to be protected or at walls

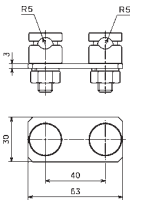
Material Bracket	Clamping range Supporting tube	Wall / Angle distance	Length Dimension	Fixing holes Ø	Material Screw	PU pc(s)	Part No.
StSt	50 mm	80 mm	320 mm	8x5.1 / 4x11 mm	StSt	1	105 340



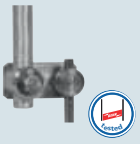
Connecting Plate

For connecting the HVI® conductor to the air-termination tip with two KS connectors including spring washer

Material Plate	Material KS-connector	Clamping range Rd	Spring washer	Dimension (l x w x d)	Standard	PU pc(s)	Part No.
StSt	StSt	6-10 mm	✔	63x30x3 mm	DIN EN 50164-1	1	301 229

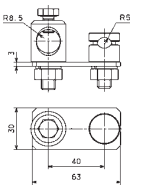


Connecting Plate



For connecting the HVI® Conductor to the air-termination rod Ø16 mm with KS connector including spring washer

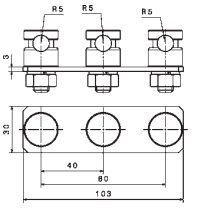
Material Plate	Material KS-connector	Clamping range Rd	Spring washer	Dimension (l x w x d)	Standard	PU pc(s)	Part No.
StSt	StSt	16 / 6-10 mm	✔	63x30x3 mm	DIN EN 50164-1	1	301 239



Connecting Plate

For connecting 2 HVI® conductors to the air-termination tip Ø10 mm with KS connector including spring washer

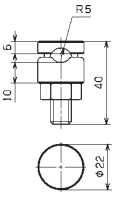
Material Plate	Material KS-connector	Clamping range Rd	Spring washer	Dimension (l x w x d)	Standard	PU pc(s)	Part No.
StSt	StSt	3 x 6-10 mm	✔	103x30x3 mm	DIN EN 50164-1	1	301 329
StSt	StSt	2 x 6-10 mm / 1 x 16 mm	✔	103x30x3 mm	DIN EN 50164-1	1	301 339



KS Connector

Single-part unit, with M10 screw and nut

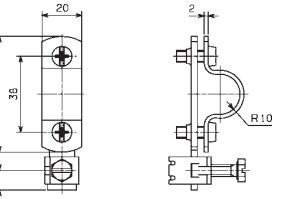
Screw Material	Clamp Material	Clamping range Rd	Spring washer	Nut Material	PU pc(s)	Part No.
StSt	StSt	6-10 mm	✔	StSt (V2A)	100	301 019



EB Clamp

For connecting the special coating of the HVI® conductor with the equipotential bonding

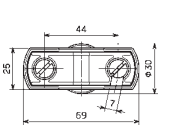
Clamp Material	Clamping range Ø	Cross-sectional area	Cleat Material	Screw	Screw Material	PU pc(s)	Part No.
St/tZn	20 mm	4-95 mm²	StSt (V2A)	M6x16	StSt (V2A)	25	405 020



Holder for HVI® Conductor

For wall mounting and for mounting within the end-closure range

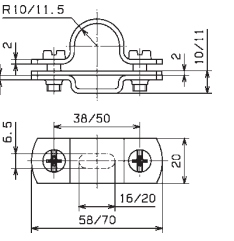
CH Material	CH Rd	Thread	Fixing hole	Screw	PU pc(s)	Part No.
PA	20 mm	M8	6.5 mm	M6x16	25	275 220
PA	23 mm	M8	6.5 mm	M6x16	25	275 225

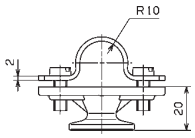


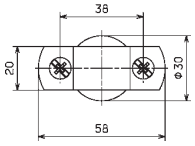
Holder for HVI® Conductor

StSt for wall mounting with twin screw cleat (outside of the sealing end range)

CH material	CH Rd	Fixing hole	Screw	PU pc(s)	Part No.
StSt	20 mm	6.5x16 mm	M6x14 mm	50	275 229
StSt	3 mm	6.5x16 mm	M6x14 mm	50	275 239



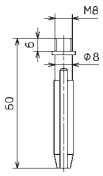




Holder for HVI® Conductor

St/tZn for wall mounting with twin-screw cleat (outside of the end-closure range)

CH Material	CH Rd	Thread	Fixing hole	Screw	PU pc(s)	Part No.
ZDC / StSt	20 mm	M8	6.5 mm	M6x16	25	**275 120**

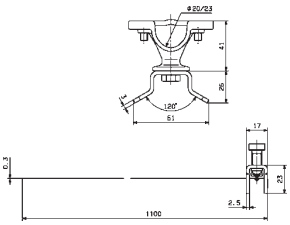


Holder for HVI® Conductor

Striking dowel (8x60 mm) for solid brickwork for fixing the conductor holder (Part No. 275 220 or 275 225) for the end-closure range

Note: When installing at honeycomb bricks, no driving when drilling

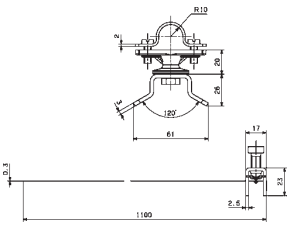
CH Material	Thread	Fixing hole	PU pc(s)	Part No.
GRP	M8x6 mm	8 mm	25	**106 760**



Conductor Holder with Tensioning Strap

With PA conductor holder

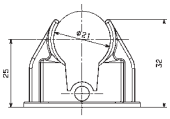
CH Material	CH Rd	Clamping range Ø pipe	Screw	Material Screw	PU pc(s)	Part No.
PA	20 mm	50-300 mm	M6x16 mm	StSt	1	**275 330**
PA	23 mm	50-300 mm	M6x16 mm	StSt	1	**275 333**

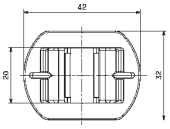


Conductor Holder with Tensioning Strap

With metal conductor holder

CH material	CH Rd	Clamping range Ø pipe	Screw	Material Screw	PU pc(s)	Part No.
ZDC / StSt	20 mm	50-300 mm	M6x16 mm	StSt	1	**275 320**



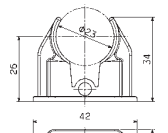


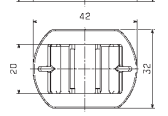
Adapter for installing HVI® Conductors on flat Roofs

Adapter for installation on flat roofs with roof conductor holder Type FB (Part No. 253 015)

Snap-on unit

Material	Colour	CH Rd	PU pc(s)	Part No.
Plastic	black	20 mm	50	**253 026**

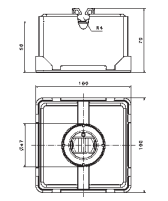




Adapter for installing HVI® Conductors on flat Roofs

Adapter for installation on flat roofs with roof conductor holder Type FB (Part No. 253 015)

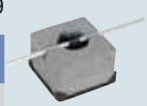
Material	Colour	CH Rd	PU pc(s)	Part No.
Plastic	black	23 mm	50	**253 027**



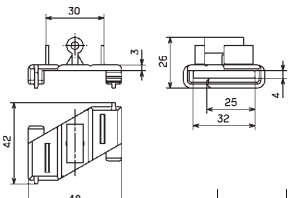
Roof Conductor Holder, for flat Roofs

For fixing round and tape conductors on flat roofs

With single conductor holder Type FB, in accordance with DIN 48829



Conductor leading	CH Material	CH Colour	CH Rd	Stone	Weight	Dimension (l x w x h)	PU pc(s)	Part No.
Loose	**plastic**	black	8 mm	**concrete (C35/45)**	1 kg	100x100x70 mm	10	**253 015**



Adapter/Holder for FB type

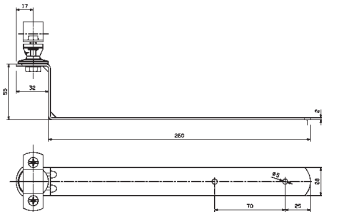
For snapping onto roof conductor holders for flat conductors 30 mm, loose conductor leading

CH Fl	Material	Colour	PU pc(s)	Part No.
30 mm	**plastic**	black	50	**253 021**

Roof Conductor Holder with Brace for HVI® Conductor

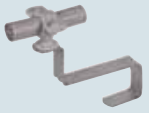
With straight brace

RCH Material	CH Material	Conductor leading	CH Rd	Brace Height	Brace Length	PU pc(s)	Part No.
St/tZn	PA	fixed	20 mm	55 mm	260 mm	25	**202 831**
St/tZn	PA	fixed	23 mm	55 mm	260 mm	25	**202 841**

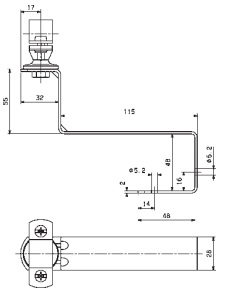


Roof Conductor Holder with Brace for HVI® Conductor

With angled brace



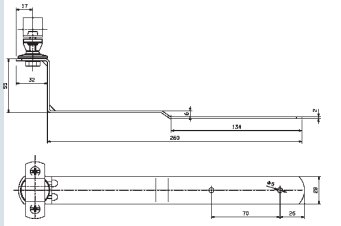
RCH Material	CH Material	Conductor leading	CH Rd	Brace Height	Brace Length	PU pc(s)	Part No.
St/tZn	PA	fixed	20 mm	55 mm	115 mm	25	**202 830**
St/tZn	PA	fixed	23 mm	55 mm	115 mm	25	**202 840**



Roof Conductor Holder with Brace for HVI® Conductor

With cranked brace

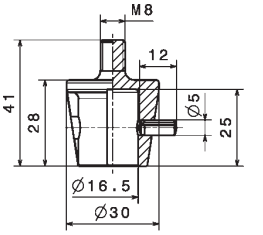
RCH Material	CH Material	Conductor leading	CH Rd	Brace Height	Brace Length	PU pc(s)	Part No.
St/tZn	PA	fixed	20 mm	55 mm	260 mm	25	**202 832**
St/tZn	PA	fixed	23 mm	55 mm	260 mm	25	**202 842**



Spacer for HVI® Conductor

Fixing adapter for the conductor holder (Part No. 275 220 or 275 225) at spacer bars (Ø16 mm) for cutting to length, made of GRP for end-closure ranges

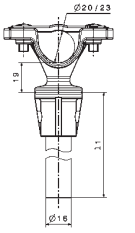
CH / Adapter Material	Length	Thread	Screw type Grooved pin	PU pc(s)	Part No.
PA	30 mm	M8	straight grooved pin 5 mm	25	**106 899**



Distance Holder for HVI® Conductor

With PA conductor holder (Part No. 275 220 or 275 225) for end-closure ranges

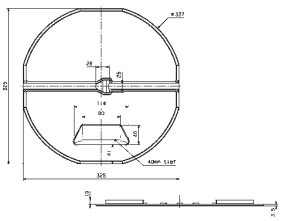
Distance holder material	Length	CH Rd	Conductor leading	Screw	PU pc(s)	Part No.
GRP	1000 mm	20 mm	fixed	M6x16 mm	1	**106 812**
GRP	1000 mm	23 mm	fixed	M6x16 mm	1	**106 813**



Concrete Base

For wedge mounting, stackable, wedge made of StSt (V2A), for air termination rods Ø16 mm, chamfered or tapered, or DEHNiso spacer Ø16 mm

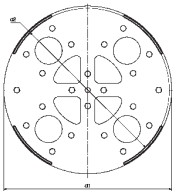
Weight	Diameter Ø (d1)	Material	PU pc(s)	Part No.
17 kg	337 mm	**concrete (C35/45)**	54	**102 010**

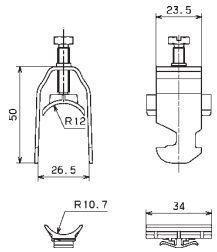


Flat Washer

For concrete bases (Part Nos. 102 010, 102 002)

Diameter Ø	Diameter Ø (d2)	Material	Colour	PU pc(s)	Part No.
370 mm	360 mm	**EVA**	black	1	**102 050**

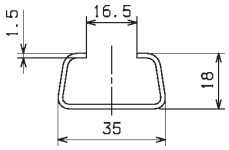




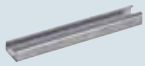
Clip

Clamp with bottom saddle

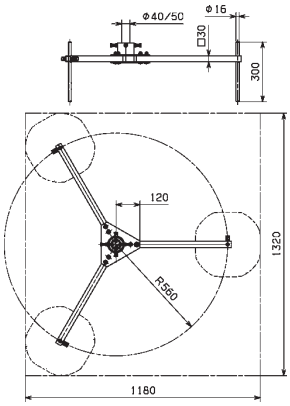
Material CH	CH Rd	Screw	Material Screw	PU pc(s)	Part No.
St/tZn-P	20/23 mm	M6x25 mm	St/tZn	1	275 520



Separate C-rail



C-Rail Material	Length	PU pc(s)	Part No.
St/tZn	2000 mm	2	275 521



Tripod for HVI Conductor in Supporting Tube

Special type for HVI Conductor integrated into supporting tube (length 3200 mm).

In order to keep the bending radius of the HVI Conductor at the bottom of the tripod, 2 concrete bases are installed below and one above the limb.

The stackable concrete base (Part No. 102 010) and the flat washer (Part No. 102 050) have to be ordered separately.

Support material	Quantity Base	Radius	Required space Tripod	PU pc(s)	Part No.
St/tZn	9	560 mm	1180x1320 mm	1	105 350

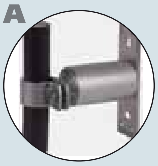
Conductor Holder for
HVI® Conductor in Explosion-hazard Areas

The operator of a facility with potentially explosive atmosphere is obligated to subdivide these facilities/system parts into the different explosion-hazard areas. For these facilities lightning has to be considered as potential source of ignition. According to the German Health and Safety at Work Regulations (BetrSichV), an explosion protection document has to be provided which describes the different explosion-risk areas.

The product HVI conductor is suitable for use in explosion-risk areas of Ex zone 1 and 2 (gases, vapours, fogs) as well as Ex zone 21 and 22 (dusts). The special installation conditions will safely prevent any sparkover if lightning currents are flowing through the HVI conductor.

In addition to the general observation of the installation instructions No. 1566 for the HVI conductor, for the special application in explosion-risk areas the installation instructions No. 1501 is absolutely mandatory!

A



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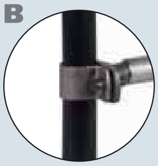

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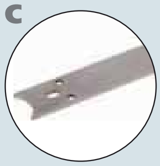

Material Base part	Material Cleat	CH Rd	Material Brace	Fixing holes Ø	Screw	Dimension (l x w x d)	PU pc(s)	Part No.
A MODEL								
With spacer sleeve, distance 50 mm, for fixing on metal construction parts (façades) in Ex zones 1 or 2 and 21 or 22								
ZDC	StSt	20 mm	StSt	4x5.1 / 2x7 mm	M6x16 mm		10	275 420
B MODEL								
With spacer bar, distance 200 mm, for fixing with e.g. fixing plate for DEHNiso distance holder (Part No. 106 127, to be ordered separately) at metal construction parts (façades) in Ex zones 1 or 2 and 21 or 22								
ZDC	StSt	20 mm	Al		M6x16 mm		20	275 430
C MODEL								
Connecting brace for installing the HVI conductor with conductor holders with spacer sleeve (Part No. 275 420) on a non-conductive structure, e.g. stone, wood								
			StSt	4x5.1 / 2x7 mm		478x30x3 mm	1	275 499

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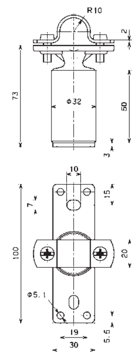

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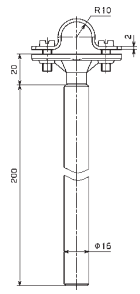

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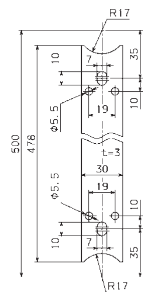


CERTIFICATE

in the style of Directive 94/9/EG

Certificate No.: AISK-11-11-2004

for inspection report No. 41165148

Name and address of the manufacturer:	DEHN + SÖHNE GmbH + Co. KG Hans-Dehn-Straße 1 P.O. Box 1640 92306 Neumarkt
Product:	HVI Conductor

The construction type of this product as well as the various designs permitted are specified in the installation instructions of DEHN + SÖHNE, Publication No.: 1501/11.04 Id. No. 047775

Inspection result:	The product meets the basic safety requirements for the field of application stated in inspection report No. 41165148
Inspection result:	TÜV Hessen GmbH Industrial Services Knorrstr. 36 34121 Kassel

This product can be labelled as follows:

II 3G bzw. II 3D

Issued:
Kassel, 2004-12-16
Fd
Industrial Services
The expert
(Dipl.-Ing. Hufschmidt)

The expert
(Dipl.-Ing. Fulda)

TÜV Technische Überwachung Hessen GmbH
Industrial Service
Knorrstr. 36, 34121 Kassel

MANUFACTURER'S DECLARATION

DEHN + SÖHNE

Product:	**HVI® conductor**	
Product designation:	Part No. 819 020 Part No. 819 021 Part No. 819 022 and relevant applications	Part No. 819 023 Part No. 819 024 Part No. 819 025
Manufacturer:	DEHN + SÖHNE GmbH + Co.KG. Hans-Dehn-Straße 1 92318 Neumarkt i.d.OPf. Germany	

Application description:

HVI® conductors are used as insulated down conductors for discharging lightning currents within the context of external lightning protection. HVI® conductors are part of the connection between air-termination rod and earth-termination system.

If the specified technical data are observed, absence of ignition sparks is ensured when lightning currents are discharged.

We herewith confirm that HVI® conductors can be used in potentially explosive areas in hazardous area 1 and 2 (gases, mists, vapours) as well as in hazardous area 21 and 22 (dusts) provided that installation instructions No. 1566 and the special specifications stated in installation instructions No. 1501 are observed.

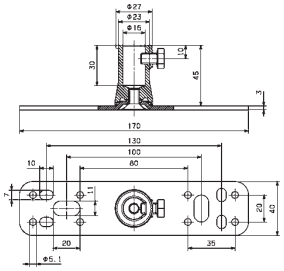
HVI® conductors do not have their own potential source of ignition (mechanical device). Thus, requirements specified in the European Directive 94/9/EC do not have to be observed.

HVI® conductors do not have to be certified in accordance with the European Directive 94/9/EC with respect to explosion protection.

When designing HVI® conductors, the risk of ignition due to electrostatic charging was taken into consideration. Based on specifications for conductive pipes or hoses, the semi-conductive outer sheath of HVI® conductors with a resistance of < 10^4 Ωm is sufficiently conductive.

Neumarkt i.d.OPf., 15th January 2008

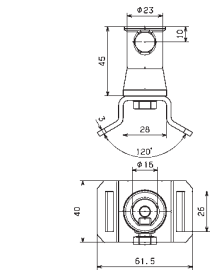
Dr.-Ing. Ralph Brocke
Head of R&D / Construction



Fixing Plate

Base plate for fixing the spacer or spacer bar (Ø16 mm), e.g. at parts of the construction

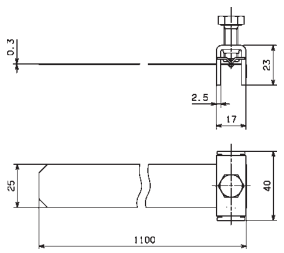
Material Base plate	Material Bushing	Fixing holes Ø	Dimension (l x w x t)	Screw	Material Screw	PU pc(s)	Part No.
StSt	ZDC	8x5.1 / 4x7 / 2x11 mm	170x40x3 mm	M8x12 mm	StSt	20	106 127



Attachment with Mounting Bushing

For fixing spacers at pipes, e.g. with tensioning strap, Part No. 106 323

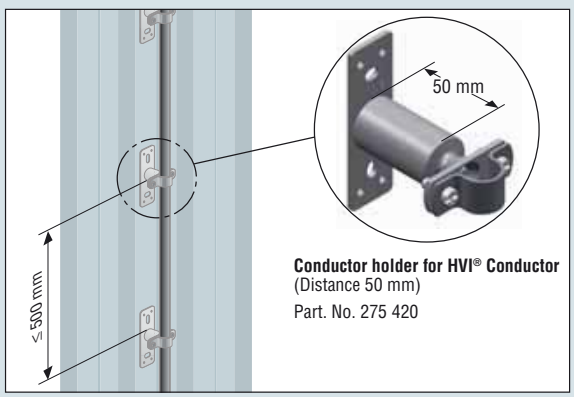
Material	Slot width (l x w)	Clamping range Rd	Material Bushing	PU pc(s)	Part No.
StSt	26x6 mm	16 mm	ZDC	10	106 322



Pipe Clamp for Attachment and Clip

For fixing (tensioning) the clip (Part No. 106 321) or the attachment with mounting bushing (Part No. 106 322) at different pipes

Material Head/Strap	Clamping range Ø	Strap (l x w x d)	Screw	Material Screw	PU pc(s)	Part No.
StSt	50 - 300 mm	1100x25x0.3 mm	M8x20 mm	StSt	10	106 323



Conductor holder for HVI® Conductor
(Distance 50 mm)
Part. No. 275 420

System drawing – installation in Ex protected zones 1 or 2 and 21 or 22 at a metal façade

HVI® conductor installed in in Ex zone 2

Connection of the HVI® conductor at the earthing terminal

Air-termination Masts with HVI® Conductor for Biogas Plants

In biogas plants electrical energy is generated by means of the fermentation gas out of renewable primary products. This gas being used, some operation facilities of the plant, such as the gas holders / gas tanks are explosion-hazard systems and areas. Considering the aspects of explosion protection and the German Health and Safety at Work Regulations (BetrSichV) they have to be classified as explosion-risk facilities. Even under normal operating conditions little volume of gas can escape at the low pressure / high pressure filling fuses, for example during the startup or shutdown phase of the biogas plant. In case of fault, however, there may be an uncontrolled leakage of gas. According to the requirements of the German BetrSichV it is incumbent on the operator of a biogas plant to make a risk analysis and to provide a document of protection against explosion.

From the viewpoint of explosion protection lightning also has to be taken into account as one of the potential sources of ignition in the explosion protection document.

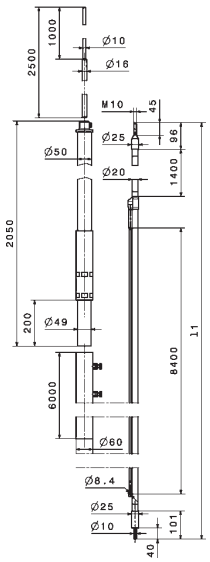
Beside a direct lightning strike, for example into the film dome of a fermentation tank, also surges caused by lightning influence can be dangerous. Surges can disturb or even lead to a complete failure of the highly sensitve extended measuring and control systems of such a plant. In case of a direct flash of lightning into the fermenation tank, the gas-air mixture can be ignited.

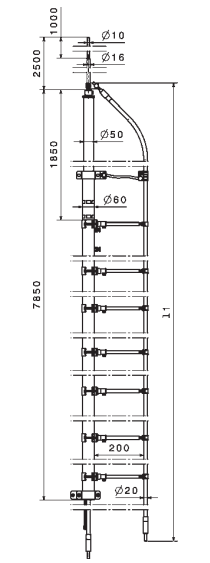
Therefore it is necessary to protect biogas plants against lightning interference by means of an effective exterior and interior lightning protection system.
Due to the different types of biogas plants the DEHN-conductor system, a protective solution with air-termination rods or an isolated air-termination system, is the recommended external lightning protection measure for the gas holders /gas tanks.

Biogas plant in Kerpen/Germany
Protection of the fermenters – Air-termination masts with HVI® conductors

Protection of the fermenters with telescopic steel lightning protection masts

Air-termination Mast with HVI® Conductor

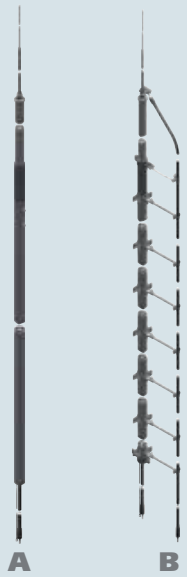




Especially for use at e.g. fermenters or gas holders of biogas plants.
Transport length 6000 mm
The maximum free length of the complete air-termination system must not exceed 8.5 m.
It has to be fixed with 3 variable supports (Part No. 105 345).
The air-termination masts are designed for wind velocities up to 145 km/h (wind load zone II according to DIN 4131).

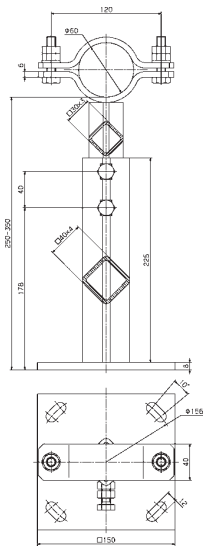
The separable air-termination mast consists of

- air-termination rod Al Ø16/10 mm, length 2500 mm
- supporting tube GRP/Al Ø50/60 length 2050 mm (inserted by 200 mm into the mast pipe)
- mast pipe St/tZn Ø60, length 6000 mm with locking screws M10 out of StSt
- HVI conductor, installed inside/outside
- Transport length 6000 mm



Length of HVI Conductor (l1)	Length air-termination rod	Length supporting tube	Length mast pipe	Total length air-termination mast	PU pc(s)	Part No.
A MODEL						
With one HVI conductor I for a total height of maximum 15 m of the air-termination system With 1x integrated HVI conductor I, conductor length 10 m Further lengths of the HVI conductor have to be ordered separately Maximum permissible total length of HVI conductor: 12.5 m						
10000 mm	2500 mm	2050 mm	6000 mm	10350 mm	1	**819 720**
B MODEL						
With two HVI conductors I for a total height of maximum 19 m of the air-termination system With 2x HVI conductor I, conductor length 10 m, installed internally and externally. Further lengths of the HVI conductors have to be ordered separately (double). Maximum permissible total length of the HVI conductors: 16.5 m						
10000 mm	2500 mm	2050 mm	6000 mm	10350 mm	1	**819 750**

For further details please see also installation instructions No. 1565.



Variable Support for Air-termination Mast

3 supports to be installed per air-termination mast
Clamping range of air-termination mast Ø60 mm

Material Support	Adjustable range	Clamping range air-termination mast	Fixing holes Ø	Profile	Screw mm	Material Screw	PU pc(s)	Part No.
St/tZn	250 - 350 mm	60 mm	12x25 mm	40x40x4 / 30x30x3	M10x30 / M10x45	StSt	1	**105 345**

HVI® Conductor Light

Further development of the HVI conductor light also allows for installation without performing an equipotential bonding connection with the building or structure at the end of an adjustment area.

The newly developed HVI conductor light completes the proven DEHNconductor system. The coupling point has to be implemented e.g. defined at the tripod, without requiring an equipotential bonding (functional earthing conductor). Mounting made easier, a lot of time can be saved on the installation.

Roof surfaces of buildings nowadays often are the final installation level. Disregarded of the hazard of potential lightning strikes, pipings, electrical and IT systems and PV systems are installed on the roof surface. All of these systems have conductive connections into the interior of the structure. So lightning partial currents can also get into the building where they can influence or even destroy the sensitive electrical/electronic installations or equipment.
Carrying of partial lightning currents into the building can be avoided by isolated air-termination systems.

Air-termination system on a building with PV system

Adjustment of a HVI® conductor light connection to the metal-capped parapet

HVI® Conductor Light

New system for keeping the separation distance on flat roofs.
With the high-voltage-resistant insulation of HVI® Conductor light, uncontrolled flashovers, e.g. through the roofing onto the metal or electrical parts situated underneath, are avoided.
The conductor will be delivered in a length of 100 m on a disposable reel out of plywood (diameter approx. 800 mm, width approx. 500 mm) including 1 Allen key.
High-voltage-resistant insulated HVI® Conductor light for keeping the separation distance from electrically conductive parts according to EN 62305-3 (VDE 0185-305-3)
Equivalent separation distance $s \leq 0.45$ m (in air), or $s \leq 0.90$ m (solid building material).

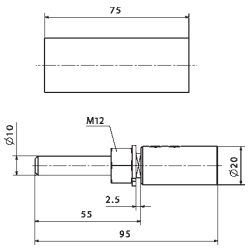
The HVI® Conductor light fulfils the requirements according to EN 50164-2 (VDE 0185-202).

Material Conductor	Material Insualtion	Material Coating	Colour Conductor	Cross section core	Outer Ø conductor	PU pc(s)	Part No.
Cu	PE	PVC	grey	19 mm²	20 mm	100	819 125

For further information please refer also to installation instructions No. 1637.

Connection Element for HVI® Conductor Light

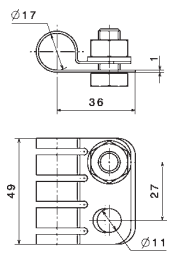
For closing HVI Conductor light on both sides when connecting the conductor, e.g. to the connecting plate at the air-termination mast or other parts of the external lightning protection system.
Includes heat-shrinkable sleeve / VPE



Material	Terminal pin	Spring washer	Screw	Material Screw/Nut	PU pc(s)	Part No.
StSt	Ø10 mm and M12	✔	threaded pin M6x8 mm	StSt	1	819 299

EB Connection Element for HVI® Conductor Light

For redirecting the electrical field of HVI® Conductor light in the end-closure range.
Especially slotted surface for electrical contacting of the semiconductive coating.



Material	Clamping range Ø	Connection hole Ø	Screw	Material screw	PU pc(s)	Part No.
For connection to the equipotential bonding, with terminal hole, e.g. for KS connector (Part No. 301 019)						
StSt	17 mm	11 mm	M10x20 mm	StSt	1	410 219

Air-termination Mast for HVI® Conductor Light on Flat Roofs

Complete with 4x connection plate for HVI® Conductor light and set for fixing the conductor at the air-termination mast.

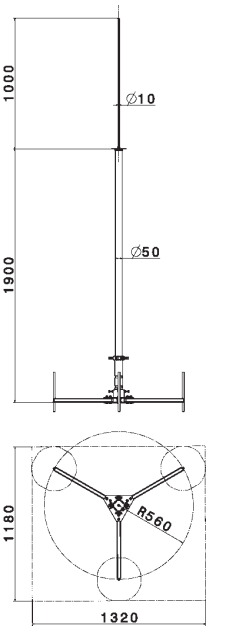
Adjustable to roof inclinations up to max. 10°.

The concrete bases and flat washers have to be ordered separately.

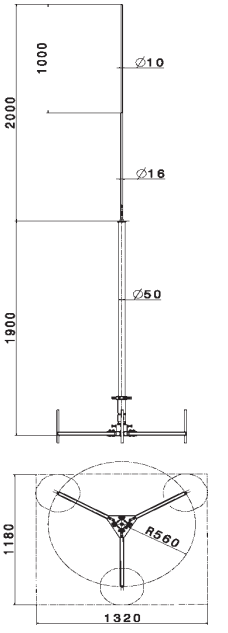
When installing the air-termination mast Part No. 819 280 with a total height of 2900 mm, 3 concrete bases are necessary to provide the stability for wind velocities up to 161 km/h (wind load zone III acc. to DIN 4131). The air-termination mast Part No, 819 285 with a total height of 3900 mm needs 3 concrete bases for the stability at wind velocities up to 145 km/h (wind load zone II acc, to DIN 4131) and 6 contrete bases to provide stability in case of wind velocities up to 161 km/h (wind load zone III acc. to DIN 4131).

Material Tripod	Material Supporting tube	Length Supporting tube	Isolating clearance	Length Air-termination tip/rod	Material Air-termination tip/rod	PU pc(s)	Part No.
A MODEL Air-termination mast for HVI Conductor light SET I, total height: 2900 mm							
St/tZn	GRP / Al	1900 mm	1535 mm	1000	Al	1	**819 280**
B MODEL Air-termination mast for HVI Conductor light SET II, total height: 3900 mm							
St/tZn	GRP / Al	1900 mm	1535 mm	2000	Al	1	**819 285**

A

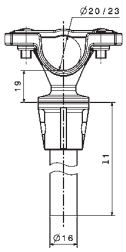


B



Spacer for HVI® Conductor light

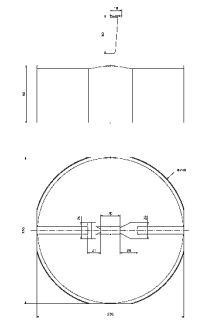
For fixing the HVI® Conductor light in the notching down area.
Spacer (length 500 mm) to be installed in a wedge mounting concrete base, 8.5 kg, (Part No. 102 075)
Spacer (length 1000 mm) to be installed in a wedge mounting concrete base, 17 kg (Part No. 102 010)



Material Spacer	Material CH / Adapter	Length	Isolating clearance	CH Support Rd	Conductor leading	Screw	PU pc(s)	Part No.
GRP	PA	500 mm	410 mm	20 mm	fixed	M6x16 mm	1	**106 852**
GRP	PA	1000 mm	910 mm	20 mm	fixed	M6x16 mm	1	**106 812**

Concrete Base

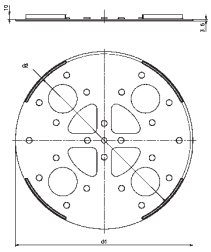
For wedge mounting, for air-termination rods, 1000 mm long, Ø10 mm or DEHNiso spacer, up to 675 mm long, Ø16 mm (distance 1 m)



Weight	Support	Diameter Ø	Material	Material Wedge/Adapter	PU pc(s)	Part No.
8.5 kg	wedged Ø10/16 mm	240 mm	**concrete (C45/55)**	StSt	120	**102 075**

Flat Washer

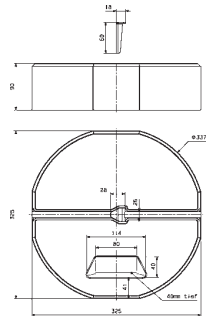
For protection of the roof sheetings under the concrete base
For concrete bases (Part Nos. 102 075, 102 003)



Diameter Ø	Diameter Ø (d2)	Material	Colour	PU pc(s)	Part No.
280 mm	270 mm	**EVA**	black	1	**102 060**

Concrete Base

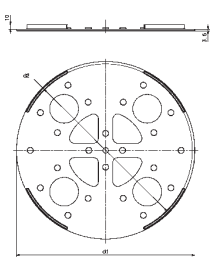
For wedge mounting, stackable, for air-termination rods Ø16 mm, chamfered or tapered, or DEHNiso spacer Ø16 mm



Weight	Support	Diameter Ø	Material	Material Wedge/Adapter	PU pc(s)	Part No.
17 kg	wedged Ø16 mm	337 mm	**concrete (C45/55)**	StSt	54	**102 010**

Flat Washer

For protection of the roof sheetings under the concrete base
For concrete bases (Part Nos. 102 010, 102 002)



Diameter Ø	Diameter Ø (d2)	Material	Colour	PU pc(s)	Part No.
370 mm	360 mm	**EVA**	black	1	**102 050**

Components for Buildings with Thatched Roofs

Components for lightning protection of thatched roofs,
e.g. made of reed or straw.

Wood Pile

Wood pile with rain cover, suitable for clamping cap (Part No. 146 309)

Material	Dimension (l x w x h)	PU pc(s)	Part No.
whitewood (impregnated)	90x90x2400 mm	1	145 241

Clamping Cap

Clamping cap for fixing at wood piles (Part No. 145 241)
with air termination tip (length 300 mm, Ø10 mm, StSt (V2A))

Material	Support Rd	Standard	Screw	Screw/Nut Material	PU pc(s)	Part No.
StSt	7-10 mm	DIN 48811 A	M10x110 mm	StSt	1	146 309

Support for Roof Conductors

Roof conductor support with conductor holder

Material	Dimension (l x w x h)	Support Rd	PU pc(s)	Part No.
whitewood (impregnated)	134x300x598 mm	6-10 mm	1	240 000

Eaves Support

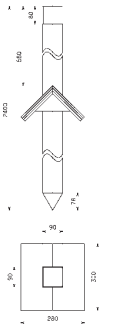
Eaves support for bracing the conductors,
distance between wall and conductors is adjustable

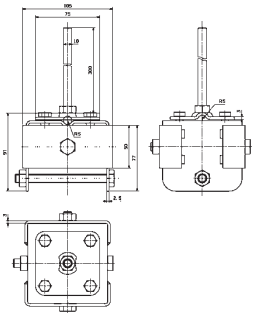
Material	Adjusting range (l1)	Support Rd	PU pc(s)	Part No.
St/tZn	1.00-1.15 m	7-10 mm	1	239 000
St/tZn	1.25-1.40 m	7-10 mm	1	239 001
StSt (V2A)	1.25-1.55 m	7-10 mm	1	239 009
StSt (V2A)	1.45-1.75 m	7-10 mm	1	239 019

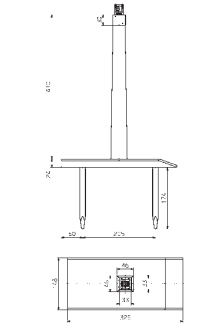
Tensioning Block

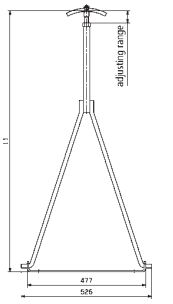
Tensioning block with guide bolt and 2 holes

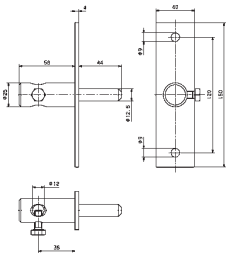
Material	Support Rd	Dimension (l x w x t)	Hole Ø	Screw	Screw Material	PU pc(s)	Part No.
StSt (V2A)	8 mm	150x40x4 mm	9 mm	M8x20 mm	StSt (V2A)	20	241 009











New Possibilities for Isolated Air-Termination Systems on Thatched Roofs

Fig. 1: New design – Lightning protection for thatched roofs

Fig. 2: Air-termination system in detail – HVI® Conductor in supporting tube

Roofing of thatched roofs like reed or straw includes an extremely high fire risk due to its high inflammability.

Due to the high risk potential, special measures are required to reduce the risk effectively in case of a lightning stroke. The effectiveness of lightning protection systems on thatched roofs can be further increased considerably by using the HVI® Conductor.

Installing the HVI® Conductor in the supporting tube allows for a considerably more appealing design of the isolated air-termination and down conductor system (see **Fig. 1** and **2**). The HVI® Conductor is used with an additional grey coating (see **Fig. 3**).

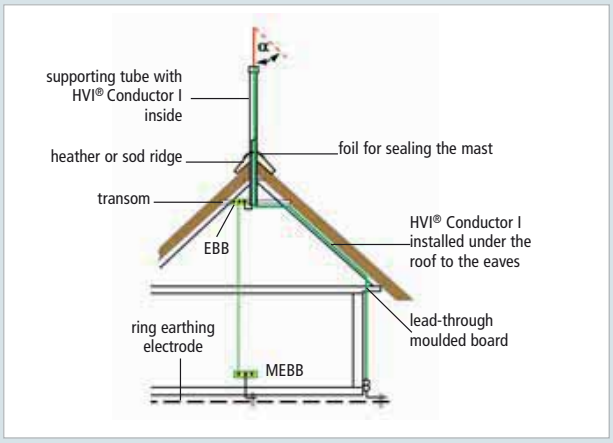
By using the HVI® Conductor, the lightning protection system can be installed directly at the object to be protected. Spacers in the ramp area or installing of eaves supports is no longer required (see **Fig. 3**).

When designing the air-termination system, it has to be ensured that the entire roof surface is protected by the air-termination system against direct lightning strokes.

The supporting tube (GRP/Al) with the HVI® Conductor inside has to be positioned to ensure that the top section (GRP) projects the roofing and the bottom made of aluminium is used for mechanical fixing. In the run of the aluminium pipe, it has to be ensured, that no earthed parts or electrical equipment are situated closer than 1 m.
If the ridge (heather/sod ridge) is covered with metal wire netting, the netting has to keep a distance of > 1 m from the supporting tube.
As an alternative, a non-conductive (plastic) wire netting can also be used.
A detailed description can be taken from **drawing 1**.

The performance parameters of the HVI® Conductor and the corresponding installation instructions have to be observed for installation.

Fig. 3: Connection to down conductor system – Lead-through moulded board



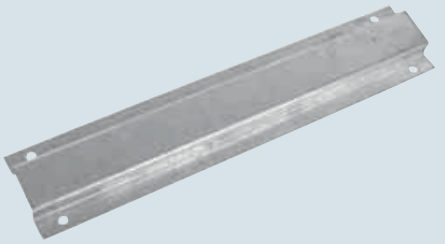
Drawing 1

Hammer Frame

Wire Straightener

Corrosion Protection
in the Soil

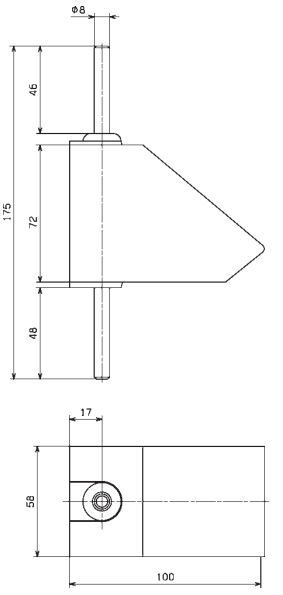
Anti Vandal Guard



Material	Length	Weight	PU pc(s)	Part No.
A MODEL 3000 mm Galvanised steel channel				
St/gal Zn	3 m	2.9 kg	1	**AVG**

Occurrence Counter

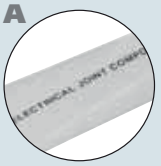
For digital recording of impulse currents caused by lightning effects.
The device is preferably installed as a discharge current meter between the equipotential bonding bar and the earth termination system.



Material	Range of response	Meter	Weight	PU pc(s)	Part No.
A MODEL					
Cu	2-100 kA (8/20 µs)	0-99	0.72 kg		**910 007**

Jointing Products

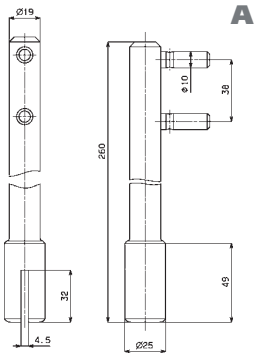
A



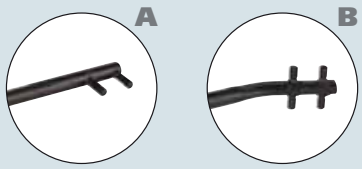
B

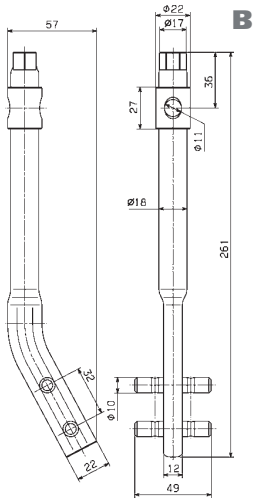
Material	Weight	Dimension	PU pc(s)	Part No.
A MODEL Electrical joint compound				
	0.23 kg		1	**UNP**
B MODEL Inhibiting joint compound				
Petrolatum		50 mm	24	**556 125**

Straightening Tool



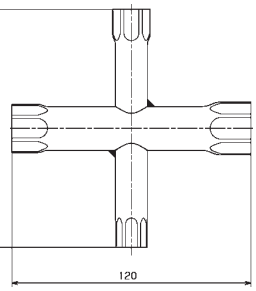
For angling and straightening of conductors





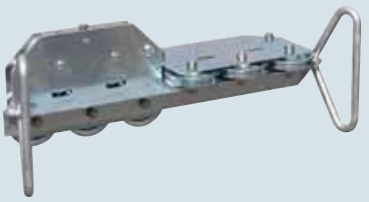
Material	Application Rd / Fl	Length	Weight	PU pc(s)	Part No.
A MODEL Straight					
St/barnished	8-10 / -4 mm	260 mm	623 g	5	**596 000**
B MODEL Cranked with a width of A/F 10 for screwing					
St/barnished	8 mm	260 mm	322 g	5	**595 000**

Spider Wrench



Material	Wrench size	PU pc(s)	Part No.
St/barnished	10, 13, 17, 19 mm	1	**572 000**

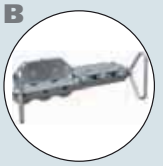
Wire Straightener



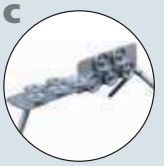
For straigtening round conductors made of different (medium-hard) materials

A

B



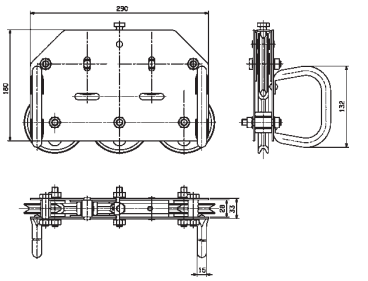
C



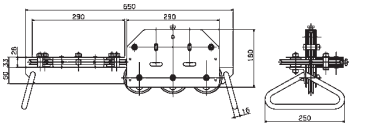
D

Material	Support Rd	Material Guide pulley	Dimension (l x w)	PU pc(s)	Part No.
A MODEL 5 guide pulleys, with handles					
St/tZn	7-10 mm	MCI/gal Zn	approx. 180x290 mm	1	**597 004**
B MODEL 10 guide pulleys, with handles					
St/tZn	7-10 mm	MCI/gal Zn	approx. 650x180 mm	1	**597 005**
C MODEL 10 guide pulleys, with derrick for stationary set-up					
St/tZn	7-10 mm	MCI/gal Zn	approx. 1350x580 mm	1	**597 003**
D MODEL 10 guide pulleys, movable on rubber wheels, with wire unwinding device, for handling of coils (St/tZn and Al) with an inner diameter of 450-800 mm and coil widths up to 150 mm For further details, please see also installation instructions No. 1096.					
St/tZn	7-10 mm	MCI/gal Zn	approx. 1650x1200 mm	1	**597 006**

A



B



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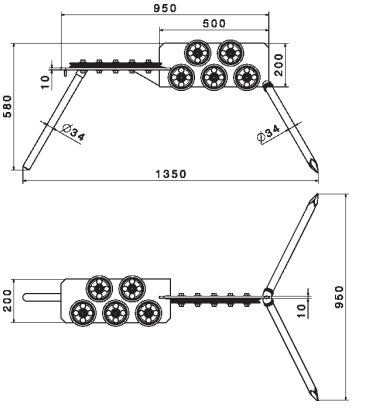
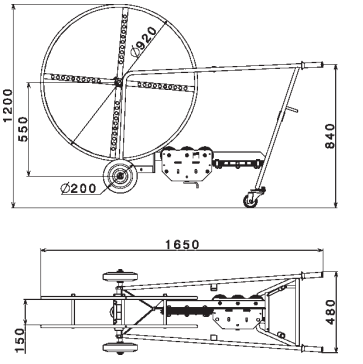


D



Hammer Frame

For driving down 1 and 1.5 m long earth rod bars with vibration hammer.

The device features a solid and useful structure and is easily transportable.

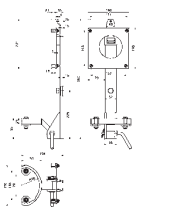
The attached cable winch allows for safe guiding of the hammer.

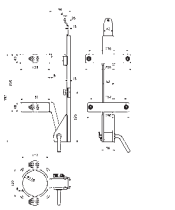
Delivery of hammer frame does not include the hammer guiding rider.

Material	Height	PU pc(s)	Part No.
St/tZn	2550 mm	1	**600 003**

For working with the hammer frame, instructions No. 1171 (incl. spare part list) has to be observed.

Hammer Guiding Rider



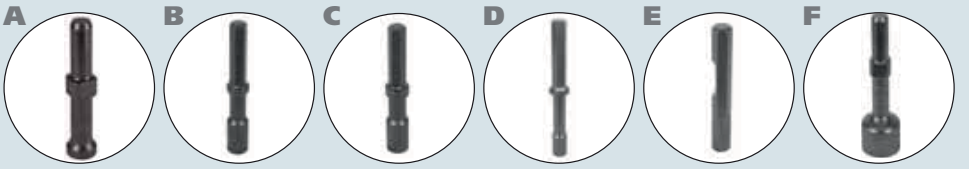


For vibration hammers made by ...

Manufacturer	Types	Material	PU pc(s)	Part No.
Atlas Copco	Cobra Combi / Cobra Standard	**St/tZn**	1	**600 029**
Wacker	EH 23 Low Vib, EH22/400, BH24 Low Vib, BH23 and BH F 30	**St/tZn**	1	**600 035**
Bosch	GSH 27	**St/tZn**	1	**600 050**

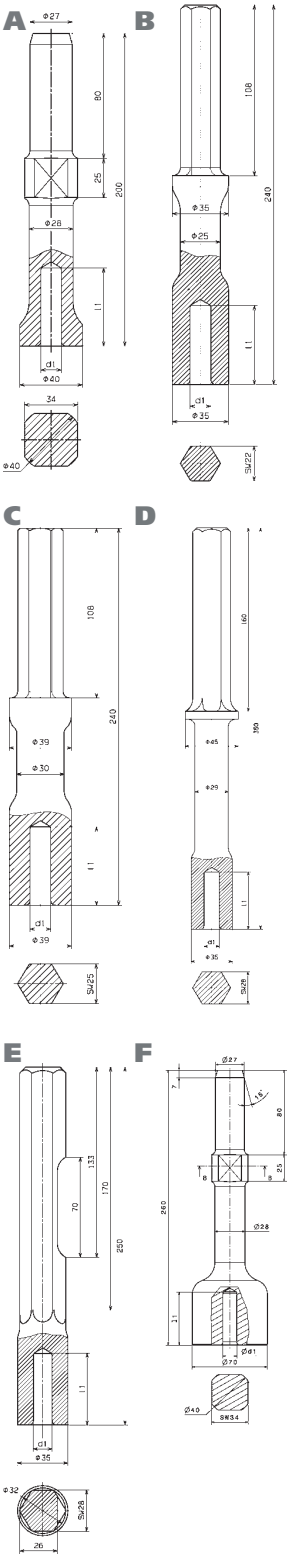
Hammer Insert for Earth Rods

For driving down earth rods with vibraton hammer
For earth rods Type S + Z
Ø20 mm (spigot Ø12 mm)or
Ø25 mm (spigot Ø 15 mm)
For Atlas Copco equipment several types of insert can be used.
Please take into consideration when placing your order.



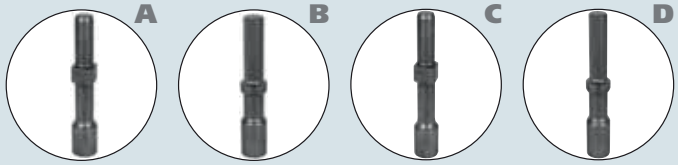
Type	Connection	Material	Bore hole (d1 x l1)	Length	PU pc(s)	Part No.
A MODEL Type Wacker						
EH 23/230, 22/400, BH 23 and BHF 30	round Ø27x80 mm	**St/bare**	13x50 mm	200 mm	1	**620 005**
EH 23/230, 22/400, BH 23 and BHF 30	round Ø27x80 mm	**St/bare**	16x55 mm	200 mm	1	**625 005**
B MODEL Type Atlas Copco						
Cobra Combi, Cobra Standard	hexagon SW22x108 mm	**St/bare**	13x50 mm	240 mm	1	**620 007**
Cobra Combi, Cobra Standard	hexagon SW22x108 mm	**St/bare**	16x55 mm	240 mm	1	**625 007**
C MODEL Type Atlas Copco						
TEX 15 PE, 19 PE, 23 PE	hexagon SW25x108 mm	**St/bare**	13x50 mm	240 mm	1	**620 008**
TEX 15 PE, 19 PE, 23 PE	hexagon SW25x108 mm	**St/bare**	16x55 mm	240 mm	1	**625 008**
D MODEL Type Atlas Copco						
TEX 28 HE, 27 H, 15 PE, 19 PE, 23 PE, 22 PS	hexagon SW28x160 mm	**St/bare**	13x50 mm	350 mm	1	**620 019**
TEX 28 HE, 27 H, 15 PE, 19 PE, 23 PE, 22 PS	hexagon SW28x160 mm	**St/bare**	16x55 mm	350 mm	1	**625 019**
E MODEL Type Bosch						
GSH 27	hexagon SW28 (1 1/8")	**St/bare**	13x50 mm	250 mm	1	**620 029**
GSH 27	hexagon SW28 (1 1/8")	**St/bare**	16x55 mm	250 mm	1	**625 029**
F MODEL Heavy equipment Type Wacker						
EH 23 Low Vib, BH 24 Low Vib	round Ø27x80 mm	**St/bare**	13x50 mm	260 mm	1	**620 009**
EH 23 Low Vib, BH 24 Low Vib	round Ø27x80 mm	**St/bare**	16x55 mm	260 mm	1	**625 009**

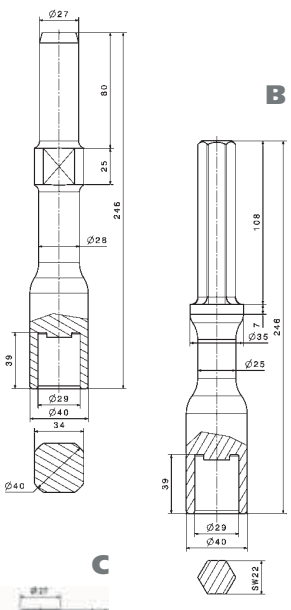
Unit for other types of hammers available on request.
Special hammer insert for earth rods, D = 20 mm, made of StSt for Wacker equipment, Part No. 620 005/S Id. No. 046 377 available on request.



Hammer Insert for Tubular Earth Electrodes

For driving down earth rods with virbration hammer





Type	Support	Material	Length	PU pc(s)	Part No.
A MODEL Insert for tubular earth electrodes Ø27 mm St/tZn vibration hammer made by Wacker					
EH 22/400, 23/230, 24/042/200, BH 23 and BHF 30	round Ø27x80 mm	**St/bare**	246 mm	1	**649 005**
B MODEL Insert for tubular earth electrodes Ø27 mm St/tZn vibration hammer made by Atlas Copco					
Cobra 149+248 and Cobra 120+130	hexagon SW22x108 mm	**St/bare**	246 mm	1	**649 007**

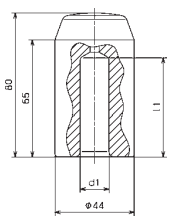
Unit for other hammer types available on request.

C MODEL Insert for tubular earth electrodes Ø25 mm StSt (V4A) vibration hammer made by Wacker					
EH 22/400, 23/230, 24/042/200, BH 23 and BHF 30	round Ø27x80 mm	**St/bare**	246 mm	1	**648 005**
D MODEL Insert for tubular earth electrodes Ø25 mm StSt (V4A) vibration hammer made by Atlas Copco					
Cobra 149+248 and Cobra 120+130	hexagon SW22x108 mm	**St/bare**	246 mm	1	**648 007**

Insert for other hammer types available on request.

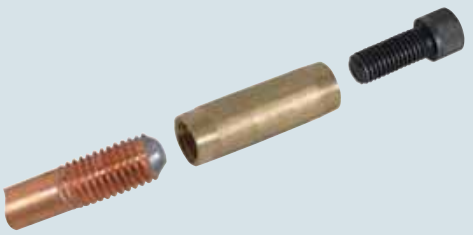
Driving Head

For driving down earth rods with manual beetle



Earth Rod	Dimension (d1 x l1)	Material	PU pc(s)	Part No.
Types S + Z + AZ (Ø 20 mm)	13x42 mm	**St/bare**	1	**620 002**
Types S + Z (Ø 25 mm)	16x47 mm	**St/bare**	1	**625 002**

Driving Stud



Driving studs are made in high tensile steel.

Material	Thread Diameter	Weight	PU pc(s)	Part No.
A MODEL				
HT St	5/8"UNC, approx. 16 mm	0.08 kg	10	**DS16**

Heat-shrinkable Sleeve

For coating Rd and Fl conductors or terminal lugs led out of the concrete, or for earth entries led, out of the ground.
UV-resistant, length according to request.

Size	Application Rd / Fl	Material	Colour	PU pc(s)	Part No.
1 "	16 / 30 mm	**DERAY**	black	1	**554 011**

Special Coating Paint

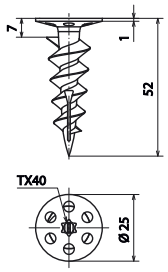
For lightning protection components and conductors, weather resistant.

Even weathered and (hot dip) galvanized surfaces and aluminium sheets can be coated without pretreatment.

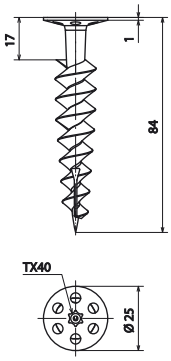
Colour	Contents	PU pc(s)	Part No.
grey	0.75 litres	1	**559 010**
brown	0.75 litres	1	**559 011**

Dowel for Rigid Foam Plates

A

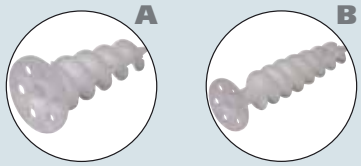


B



For fixing conductor and rod holders in external thermal insulation composite systems.

Drive with hexagon socket screw key, 5 mm, or with screw driver for recessed screws, size 5 (use enclosed adapter)
To be mounted with wood screws Ø4.5 mm
This dowel is suitable for fixing conductor holders only if there is no risk of additional tensile forces affecting the down conductor

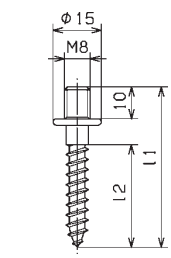


Material	Thickness Insulating material	Anchoring depth	Working load styrofoam PS20	Working load rigid foam	PU pc(s)	Part No.
A MODEL Short						
PA	60 mm	50 mm	35 N	60 N	50	**200 600**
B MODEL Long						
PA	100 mm	85 mm	60 N	85 N	50	**200 601**

For further details, please see also installation instructions No. 1459

Wood Screw

with threaded head



Rigid screw for fixing conductor holders with female thread

Material	Thread	Length (l1)	Length (l2)	PU pc(s)	Part No.
St/gal Zn	M8	50 mm	32 mm	100	**528 850**
St/gal Zn	M8	70 mm	42 mm	100	**528 870**

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Legal Notes

Since we do not carry out the design of systems or system components, the suggested application of our products should be regarded as product information and for advisory purposes only. Our oral and written advice on application is based on experience and given to the best of our knowledge. However, it must be also considered as not binding. This particularly applies to the different conditions of use which are beyond our control. We recommend to check whether the respective DEHN product is suitable for the intended application.
Application, use and processing of our products take place beyond our control. Therefore, the product is completely subject to the user's responsibility.

Trademarks

- "BLITZPLANER"
- "DEHNgrip"
- "DEHNfix"
- "DEHNQUICK"
- "DEHNsnap"
- "HVI"
- "...Mit Sicherheit DEHN."

and our logo

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DEHN + SÖHNE GMBH + CO.KG.

Key Words

Conditions of Sale

1. Definitions

1.1 'Buyer'
means the person who buys or agrees to buy the goods from the Seller.

1.2 'Conditions'
means the terms and conditions of sale set out in this document and any special terms and conditions agreed in writing by the Seller.

1.3 'Delivery Date'
means the date specified by the Seller when the goods are to be delivered.

1.4 'Goods'
means the articles which the Buyer agrees to buy from the Seller.

1.5 'Price'
means the price for the Goods excluding carriage, packing, insurance and VAT.

1.6 'Seller'
means DEHN (U.K.) LIMITED Unit N8B Meltham Mills Industrial Estate, Meltham, Holmfirth, West Yorkshire HD9 4DS.

2. Conditions Applicable

2.1 These Conditions shall apply to all contracts for the sale of Goods by the Seller to the Buyer to the exclusion of all other terms and conditions including any terms or conditions which the Buyer may purport to apply under any purchase order confirmation of order or similar document.

2.2 All orders for Goods shall be deemed to be an offer by the Buyer to purchase Goods pursuant to these Conditions.

2.3 Acceptance of delivery of the Goods shall be deemed conclusive evidence of the Buyer's acceptance of these Conditions.

2.4 Any variation to these Conditions (including any special terms and conditions agreed between the parties) shall be inapplicable unless agreed in writing by the Seller.

2.5 All documents such as those concerning specially manufactured products including drawings are the property of the Seller and are subject to the laws of copyright and are not to be made available to third parties.

2.6 Illustrations, drawings, indications of weight and dimensions prepared by or on behalf of the Seller are for identification purposes only and as such are not binding on the Seller.

2.7 The Seller reserves the right to change the technical data and specification of the Goods provided that their performance is not depleted as a result.

2.8 Representatives of the Seller are not empowered to give advice to the Buyer.

3. The Price and payment

3.1 The price of the Goods shall be the Seller's quoted price which shall be binding on the Seller provided that the Buyer shall accept the Seller's quotation within 30 days. The Seller may be giving notice to the Buyer at any time up to 7 days before delivery increase the Price of the Goods to reflect any increase in the cost to the Seller which is due to factors occurring after the making of the contract of sale which are beyond the reasonable control of the Seller (including, without limitation, foreign exchange fluctuations, taxes and duties and the cost of labour, materials and other manufacturing costs). Provided that the Buyer may cancel this contract within 3 days of any such notice from the Seller. The Price is exclusive of VAT which shall be due at the rate ruling on the date of VAT invoice.

3.2 Payment of the Price and VAT shall be due within 30 days of the date of the date of the invoice unless alternative terms are agreed between the Buyer and the Seller.

3.3 Interest on overdue invoices shall accrue from the date when payment becomes due from day to day until the date of payment at a rate of 4% above National Westminster Bank plc's base rate from time to time in force and shall accrue at such a rate after as well as before any judgement.

4. The Goods

4.1 The quantity and description of the Goods shall be as set out in the Seller's quotation.

4.2 The Seller may from time to time make changes in the specification of the Goods which are required to comply with any applicable safety or statutory requirements or which do not materially affect the quality or fitness for purpose of the Goods.

5. Warranties and liability

5.1 The Seller warrants that the Goods will at the time of delivery correspond to the description given by the Seller all other warranties, conditions or terms relating to fitness for purpose, merchantability or condition of the Goods and whether implied by statute or common law or otherwise are excluded.

6. Delivery of the Goods

6.1 Delivery of the Goods shall be made to the Buyer's address on the Delivery Date. The Buyer shall make all arrangements necessary to take delivery of the Goods whenever they are tendered for delivery.

6.2 The Seller may deliver the Goods by separate instalments. Each separate instalment shall be invoiced and paid for in accordance with the provisions in this contract of sale.

6.3 The failure of the Seller to deliver or the failure of the Buyer to pay for any one or more of the said instalments of the Goods on the due dates shall not entitle either party to treat this contract as repudiated.

6.4 The Seller shall not be liable for any loss or damage whatever due to failure by the Seller to deliver the Goods (or any of them) promptly or at all.

6.5 Notwithstanding that the Seller may have delayed or failed to deliver the Goods (or any of them) promptly the Buyer shall be bound to accept delivery and to pay for the Goods in full provided that delivery shall be tendered at any time within 3 months of the Delivery Date.

7. Acceptance of the Goods

7.1 The Buyer shall be deemed to have accepted Goods 24 hours after delivery to the Buyer.

7.2 If the Buyer properly rejects any of the Goods which are not in accordance with the contract the Buyer shall nonetheless pay the full Price for such Goods unless the Buyer promptly gives notice of rejection to the Seller and at the Buyer's cost returns such Goods to the Seller before the date when payment of the Price is due.

7.3 No Goods delivered to the Buyer which are in accordance with the contract will be accepted for return without the prior written approval of the Seller on terms to be determined at the absolute discretion of the Seller.

7.4 If the Seller agrees to accept any such Goods for return the Buyer shall be liable to pay a handling charge of 15% of the invoice price. Such Goods must be returned by the Buyer carriage-paid to the Seller in their original shipping carton in a condition suitable for resale.

7.5 Goods returned without the prior written approval of the Seller may at the Seller's absolute discretion be returned to the Buyer or stored at the Buyer's cost without prejudice to any rights or remedies the Seller may have.

7.6 After acceptance the Buyer shall not be entitled to reject Goods which are not in accordance with the contract.

8. Title and risk

8.1 The Goods shall be at the Buyer's risk as from delivery.

8.2 In spite of delivery having been made property in the Goods shall not pass from the Seller until:

8.2.1 the Buyer shall have paid the Price plus VAT in full; and

8.2.2 no other sums whatever shall be due from the Buyer to the Seller.

8.3 Until property in the Goods passes to the Buyer in accordance with clause 8.2 the Buyer shall hold the Goods and each of them on a fiduciary basis as bailee for the Seller. The Buyer shall store the Goods (at no cost to the Seller) separately from all other goods in its possession and marked in such a way that they are clearly identified as the Seller's property.

8.4 Notwithstanding that the Goods (or any of them) remain the property of the Seller the Buyer may sell or use the Goods in the ordinary course of the Buyer's business at full market value for the account of the Seller. Any such sale or dealing shall be a sale or use of the Seller's property by the Buyer on the Buyer's own behalf and the Buyer shall deal as principal when making such sales or dealings. Until property in the Goods passes from the Seller the entire proceeds of sale or otherwise of the Goods shall be held in trust for the Seller and shall not be mixed with other money or paid into any overdrawn bank account and shall be at all material times identified as the Seller's money.

8.5 The Seller shall be entitled to recover the Price (plus VAT) notwithstanding that property in any of the Goods has not passed from the Seller.

8.6 Until such time as property in the Goods passes from the Seller the Buyer shall upon request deliver up such of the goods as have not ceased to be in existence or resold to the Seller. If the Buyer fails to do so the Seller may enter upon any premises owned occupied or controlled by the Buyer where the Goods are situated and repossess the Goods. On the making of such request the rights of the Buyer under clause 8.4 shall cease.

8.7 The Buyer shall not pledge or in any way charge by way of security for any indebtedness any of the Goods which are the property of the Seller. Without prejudice to the other rights of the Seller, if the Buyer does so all sums whatever owing by the Buyer to the Seller shall forthwith become due and payable.

8.8 The Buyer shall insure and keep insured the Goods to the full Price against 'all risks' to the reasonable satisfaction of the Seller until the date that property in the Goods passes from the Seller, and shall whenever requested by the Seller produce a copy of the policy of insurance. Without prejudice to the other rights of the Seller, if the Buyer fails to do so all sums whatever owing by the Buyer to the Seller shall forthwith become due and payable.

8.9 The Buyer shall promptly deliver the prescribed particulars of this contract to the Registrar in accordance with the Companies Act 1985 Part XII as amended. Without prejudice to the other rights of the Seller, if the Buyer fails to do so all sums whatever owing by the Buyer to the Seller shall forthwith become due and payable.

9. Remedies of Buyer

9.1 Where the Buyer rejects any Goods then the Buyer shall have no further rights whatever in respect of the supply to the Buyer of such Goods or the failure by the Seller to supply Goods which conform to the contract of sale.

9.2 Where the Buyer accepts or has been deemed to have accepted any Goods then the Seller shall have no liability whatever to the Buyer in respect of those Goods.

9.3 The Seller shall not be liable to the Buyer for late delivery or short delivery of the Goods.

10. Proper law of contract

This contract is subject to the law of England and Wales.

DEHN (U.K.) LTD

Lightning Protection
Surge Protection
Safety Equipment

DEHN (U.K.) LTD
Unit N8B
Meltham Mills Industrial
Estate
Meltham Holmfirth
West Yorkshire HD9 4DS
England

Tel. +44 1484 859 111
Fax +44 1484 859 222
www.dehn.co.uk
info@dehn.co.uk