Cobra

GROUNDING SYSTEMS



STUVEX

STUVEX is part of the STIF Group

English

STUVEX, a company specialized in the design, installation and maintenance of explosion protection systems for industrial applications and headquartered in Kontich, Belgium, is pleased to present its range of products dedicated to the safe electrical earthing or grounding of various objects.

Under the new brand name **COBRA**, the company unveils a line of products specifically designed to protect industrial facilities against the risks of uncontrolled electrostatic discharge frequently encountered during the loading and the unloading of trucks, containers, and other equipment.

Uncontrolled electrostatic discharge can lead to:

Electric shock to operators
Product losses
Malfunctioning electronic equipment
Process disruption
Fire and even explosion



COBRA Grounding Systems are more than a brand: it is a dedicated division within **STUVEX**, with its own R&D, sales, and marketing teams.

Our goal is to develop this range of products internationally and for **COBRA** Grounding Systems to become the benchmark in this market.

We protect: People, Equipment, Facilities WorldWide.

Summary

TRUCKS

I **COBRA TES** - Truck Earthing System (IP/EX) p.4

METAL OBJECTS

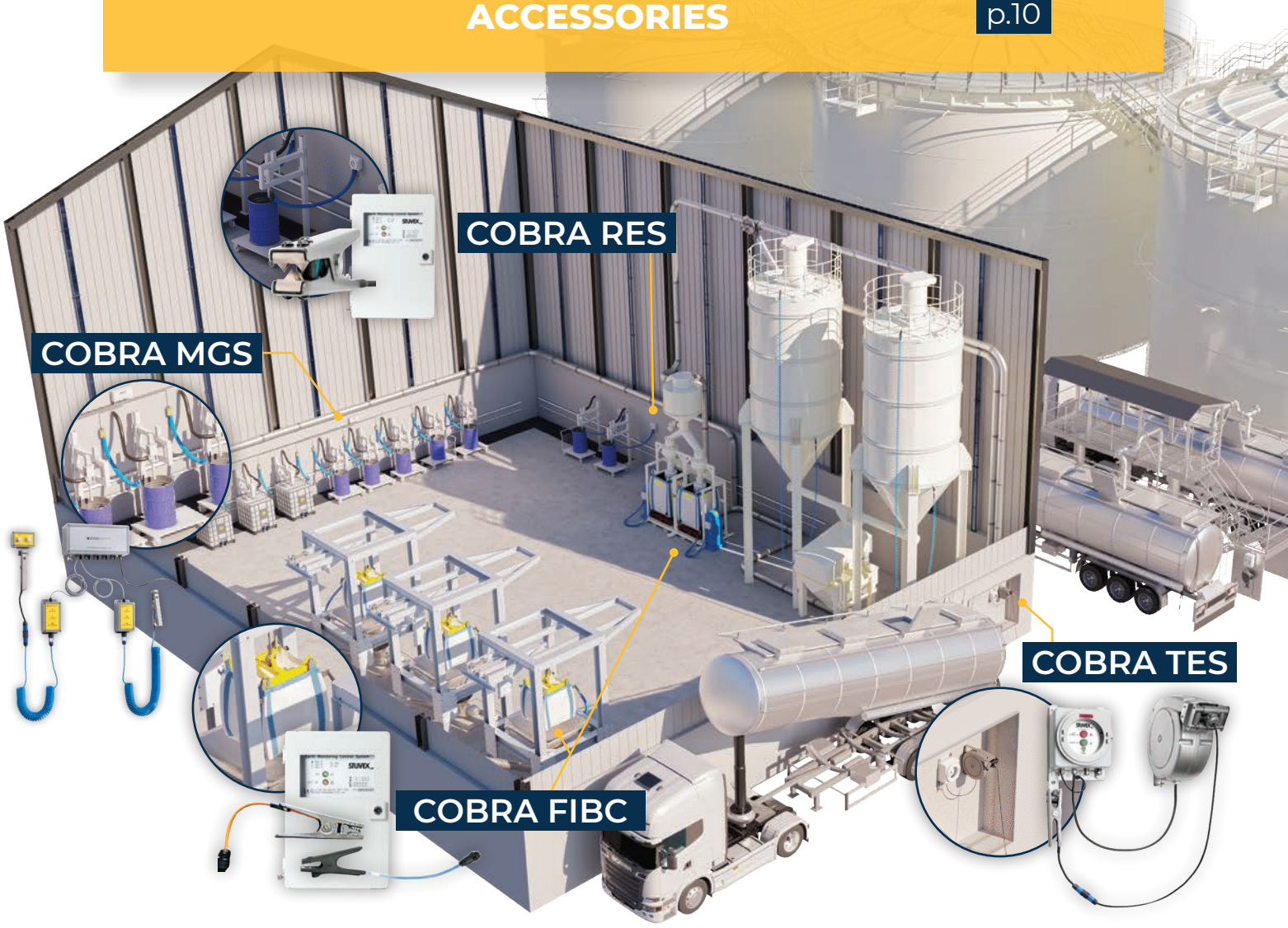
II **COBRA MGS** - Multipoint Grounding System p.6

III **COBRA RES** - Resistive Earthing System p.8

BIG BAGS FIBC

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CobraTES

TRUCK EARTHING SYSTEM

APPLICATIONS

Loading and unloading non-conducting liquids or powders from trucks can generate electrostatic charges. If enough electrostatic energy is generated, there will be an explosion hazard. This risk can be avoided by earthing the truck via a **COBRA TES** earthing verification system.

CobraTES *EX*

ATEX ZONE *1, 2, 21, 22*



- *DUST*
- *GAS*
- *LIQUIDS*



CobraTES *IP*

ATEX ZONE *21, 22*



- *DUST*



The COBRA TES earthing system consists of a control unit, a connecting spiral cable or cable reel and a stainless steel connection clamp. All components are ATEX certified.

CONTROL UNIT

Control Unit provides five important functions:

- Initial earthing over high resistance (no spark formation)
- Truck detection (capacitive measurement)
- Verification of the connection from truck to earth via the clamp
- Status indication LEDs
- Potential-free contact for loading and unloading release.





SPIRAL CABLE OR CABLE REEL

To connect the trailer to the earth, choose from a spiral cable (3, 5 or 10 m) or a cable reel (15 m) with automatic retractor.



EARTHING CLAMP

The active earth clamp is spring-loaded and equipped with hardened, sharp teeth. When the clamp is attached to the object, the teeth penetrate paint, rust, or dirt, ensuring a low-resistance electrical connection (less than 10 Ohm).

Once the clamp is properly applied, the circuit between the jaws is closed and the system verifies the electrical continuity between the clamp, the connected equipment, and the control unit, ensuring proper grounding during the operation.



The STUVEX COBRA TES earthing system has been designed for industrial use and is rugged and compact. It's made of durable and robust materials to withstand difficult industrial environments.



- Safe electrostatic discharge of the truck
- Truck detection via capacitive measurement
- Low resistance (adjustable to < 10Ω or <30Ω) between truck and TES
- Clearly visible red and green LEDs
- Potential-free contact to enable loading and unloading operations
- Power supply : 110-240 V AC or 24 DC (standard) Easy 'plug and play' installation
- Truck detection ON/OFF, integrated for TES IP
- Stainless steel housing for TES IP version
- ATEX and IECEx certified
- Complies with IEC/TS60079-32-1 and NFPA 77
- Designed for SIL 2 applications

TECHNICAL INFORMATION

COBRA TES EX	
ATEX information	Approved for use in zones 1, 2, 21 and 22
ATEX marking	II 2(1) GD Ex db (ia Ga) IIC T6 Gb -40 °C ≤ Ta ≤ +52 °C Ex tb (ia Da) IIIC T85°C Db -40 °C ≤ Ta ≤ +52 °C
IECEx marking	Ex db (ia Ga) IIC T6 Gb -40 °C ≤ Ta ≤ +52 °C Ex tb (ia Da) IIIC T85°C Db -40 °C ≤ Ta ≤ +52 °C
COBRA TES IP	
ATEX information	Approved for use in zones 21 and 22
ATEX marking	II 2GD Ex tb (ia Da) IIIC T135°C Db -30 °C ≤ Ta ≤ +54 °C
IECEx marking	Ex tb (ia Da) IIIC T135°C Db



Cobra MGS

MULTIPOINT GROUNDING SYSTEM

APPLICATION

The **COBRA MGS** earthing control system enables the monitoring and grounding of up to 10 objects simultaneously. It is used during loading or unloading operations involving flammable liquids, powders, or electrostatically sensitive materials (e.g., vessels, drums or containers).

Each earth clamp is connected to a control box that verifies the grounding condition and ensures the process can be safely released. The system can be configured for multi-station grounding or to monitor multiple grounding points within a single installation.

If only one clamp is connected, only that station is activated, making the **COBRA MGS** ideal for multi-station industrial operations.

ADVANTAGES

Specifically developed for the safe earthing of metal objects such as IBC's, metal drums, railcars, ... etc. it offers following benefits:

- Connect up to 10 RCB's (Resistance Control Boxes)
- Safe connection to earth over low resistance connection (< 10Ω)
- Red and green signal LED's for monitoring connection to earth
- Potential-free contact per RCB (up to 10) for release charging or discharging process
- ATEX and IECEX certified
- Complies with IEC/TS60079-32 and NFPA77
- Safety class SIL 2



COBRA MGS with spiral cable, earthing clamp and ReConn



ZONING

The **COBRA MGS Resistance Control Box** belongs to device group II category 2GD and can be used in an explosive atmosphere zone 1 or 2 (gas) or in zone 21 or 22 (dust).

The **COBRA MGS Power Box** belongs to equipment group II category 3GD and may be used in zone 2 (gas) or zone 22 (dust).



MGS EARTHING SYSTEMS CONSISTS OF:

- Power Box



- 1-10 Resistance Control Boxes



- 1-10 Heavy Duty Spiral Cables (3m, 5m, 10m)



- 1-10 Earthing Clamps type small or medium



TECHNICAL INFORMATION

MGS01 - POWER BOX	
ATEX information	Certified for use in ATEX zone 2, 22
ATEX marking	II 3GD Ex ec nC IIC T4 Gc Ex tc IIIC T135°C Dc -25°,≤ Ta ≤ +60°C
IECEx marking	Max. 10 potential-free, NO, 1 A, 30 V DC max 1 x status PSU (Power Supply Unit), NO, 1 A, 30 V DC

MGS01 - RESISTANCE CONTROL BOX	
ATEX information	Certified for use in zone 1 and 2 (gas), zone 21 and 22 (dust) and non-risk enviroments
ATEX marking	II 3GD Ex ec nC IIC T4 Gc Ex mb[ia Da] IIIC T6 G Ex mb[ia Da] IIIC T85°C Dc -25°,≤ Ta ≤ +60°C
IECEx marking	1 potential-free, NO, 1 A, 30 V DC



Cobra RES

RESISTIVE EARTHING SYSTEM

APPLICATION

COBRA RES resistive grounding monitoring system provides a visual indication of a good connection to earth. Thanks to the integrated potential-free Interlock, it can signal the start of filling or emptying process for objects such as IBC and metal drums. Unlike fixed installations, the grounding of these objects may sometimes be overlooked or forgotten.

The system is ATEX certified and depending on the version (IP or EX) it can be used in ATEX zone 1, 2, 21, 22.

ADVANTAGES

- Resistive monitoring of proper clamp connection
- Grounding of the object. No spark can occur, as static electricity is safely discharged via the control unit
- Dry contact output to interlock the process in case of grounding failure
- Indicator lights to display the grounding status



Cobra RES consists of a control unit, a spiral cable (3m, 5m, 10m) or a cable reel and an earthing clamp.

CONTROL UNIT



COBRA RES IP
ATEX ZONE 22



COBRA RES EX
ATEX ZONE 1, 2, 21, 22

EARTHING SYSTEM



- *Single-clamp CMS1*



- *Cable reel*



Cobra FIBC

BIG BAG GROUNDING SYSTEM

APPLICATION

The **COBRA FIBC** conductive system is specially designed for grounding **FIBCs** (Big Bags), Type C.

The system recognizes the conductivity of a Type C **FIBC** and confirms a secure and compliant grounding connection.

For a higher level of safety, a two-clamp detection system is available, ensuring detection of any abnormal resistance in the **FIBC** resulting from damage or improper use.

COBRA FIBC provides visual indication and a dry contact output to interlock the filling or emptying process and can be integrated into the customer's PLC.



Cobra FIBC consists of a control unit, a spiral cable (3m, 5m, 10m) and 1 or 2 earthing clamps.

CONTROL UNIT

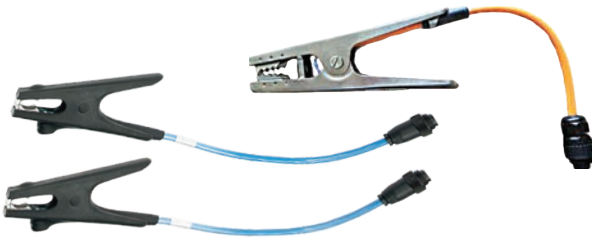


COBRA FIBC IP



COBRA FIBC EX

EARTHING SYSTEM



- *2-clamp detection system*
- *1-clamp detection system*

ACCESSORIES

TEST DEVICE RECONN

Specially developed for use with COBRA grounding systems, the ReConn offers the following advantages:

- Measuring point for grounding earth clamp
- Diagnostic tool for the COBRA range
- Tool for periodical check-up of the system
- Control resistance measurement
- Control capacitive measurement
- Suitable for use in ATEX environment



EARTHING CLAMP CSS1 (SMALL) AND CMS1 (MEDIUM)

The earthing clamps offer the following advantages:

- Stainless steel, robust and ergonomic design
- Sharp, hardened teeth with optimal “biting power”
- Equipped with integrated strain relief
- Suitable for use in all weather conditions
- Suitable for use in chemical or saline environments
- Suitable for use in ATEX environment
- According to IEC/TS60079-32-1



CABLE REEL (15 M)

The cable reel offers the following advantages :

- High mechanical protection of the cable
- Simple and quick installation
- Minimal resistance (<10 Ohm)
- Closed housing with earth connection
- Integrated retractor
- Cable routing with self-lubricating rollers
- Automatic blocking mechanism
- Swiveling bracket in stainless steel
- Both for indoor and outdoor use
- Suitable for use in ATEX environment (zone 1, 2, 21 and 22)



ACCESSORIES

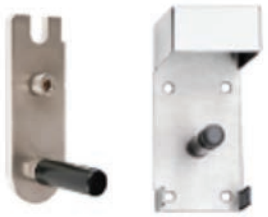
SPIRAL CABLE

The spiral cables offer the following advantages :

- Suitable for use in all weather conditions
- Wide temperature range
- Excellent fatigue resistance
- High tear and abrasion resistance
- Excellent resistance to chemicals, oils and greases
- Suitable for use in ATEX environment
- Optimal stretch ratio
- Retention of shape and flexibility when retracted
- Complies with CL/TR50404 and NFPA77
- Spiral cables are available in extendable lengths (3m, 5m, 10m)



CLAMP HOLDER



SELECTION SWITCH FOR COBRA TES EX



MOUNTING PLATE FOR COBRA MGS



DISSIPATIVE FOOTWEAR TESTING STATION



Cobra

GROUNDING SYSTEMS



STUVEX By STIF

STUVEX UK By STIF

STUVEX Safety System LTD
23 Colvilles Road, Kelvin Industrial Estate
East Kilbride G75 0RS, UNITED KINGDOM-
sales@stuvex.com

STUVEX By STIF

(HEAD OFFICE)
Heiveldekens 8,
2550 Kontich, BELGIUM
sales@stuvex.com

STUVEX NORDIC By STIF

Egholmvej 5B
DK-98000 Hjørring, DENMARK
sales@stuvex.dk

WWW.STUVEX.COM

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