

SPARK GAP Type EXFS L/EXFS KU



- For indirect connection/earthing of functionally separate parts of installations when being affected by lightning
- Device for lightning equipotential bonding according to IEC 61024-1 in hazardous areas (Zone 2)
- Corresponds to "ATEX Directive" 94/9/EG
- Corrosion-resistant enclosure made of zinc die casting with plastic cover and flexible conductor connection
- For bridging insulating pieces, insulating flanges ect. in pipe sections with cathodic protection
- Highly loadable unit

ATEX-certified isolating spark gap for lightning equipotential bonding according to IEC 61024-1, approved device with flexible conductor connection.

EXFS L..... : Isolated spark gap for use in hazardous areas with flexible connecting cable

EXFS KU.... : Isolated spark gap for use in hazardous areas with 1,5 m connecting cables for underground installation

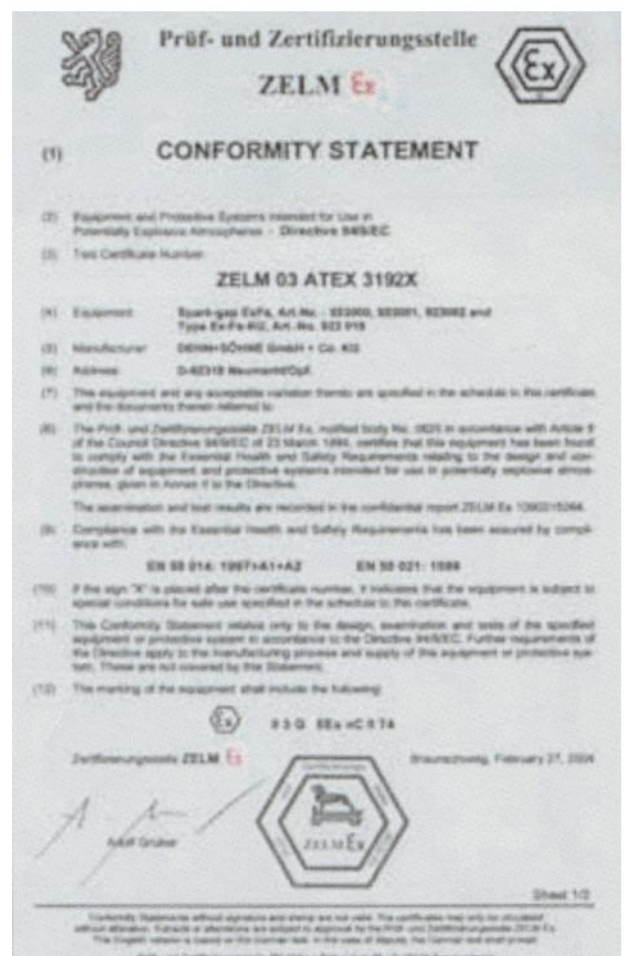
The Ex isolating spark gaps of the EXFS L / EXFS KU product family are used for conductive parts of an installation which cannot be interconnected directly in hazardous areas. This affects, for example, pipe sections supplied with a cathodic corrosion protection system.

ATEX-certified EXFS L and EXFS KU spark gaps provide approved and tested safety in accordance with harmonised European Standards.

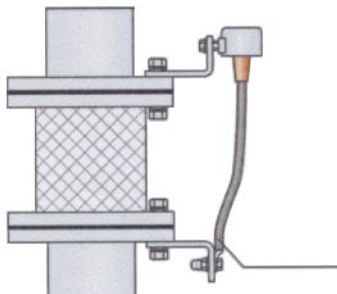
The arc-resistant tungsten-copper electrodes ensure a long service life of the EX spark gaps.

The approved type EXFS L with flexible conductor connection adjusts itself quickly to any application environment. The prewired spark gaps include connecting cables with different lengths with cable lugs, M10 screws and nuts. The flat or angled connection brackets (IF), which are available as accessories, allow an easy connection of the spark gap at pipeline flanges.

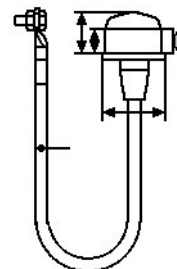
Type EXFS KU is enclosed by a damp-proof PVC enclosure and can be ideally used for underground installation at insulating couplings.



**SPARK GAP
Type EXFS L**



Installation of EXFS



Dimension drawing of EXFS

	EXFS L100	EXFS L200	EXFS L300
Lightning impulse current (10/350 us) I_{imp}	50kA	50kA	50kA
Classification og lightning current carrying Capability according to EN 50164-3	N	N	N
Nominal discharge current (8/20 us) I_n	100 kA	100 kA	100 kA
Rated power-frequency withstand voltage (50 Hz) U_{WAC}	300 V	300 V	300 V
100% lightning impulse sparkover voltage U_{rimp}	$\leq 2,5$ kV	$\leq 2,5$ kV	$\leq 2,5$ kV
Power frequency sparkover voltage (50 Hz) U_{aw}	$\leq 1,2$ kV	$\leq 1,2$ kV	$\leq 1,2$ kV
Type of protection according to EN 50014, EN 50021	Ex II 3 G EEx nC II T4	Ex II 3 G EEx nC II T4	Ex II 3 G EEx nC II T4
Operating temperature range T_U	-20° to +80°	-20° to +80°	-20° to +80°
Degree of protection	IP 54	IP 54	IP 54
Approvals, certifications	ZELM 03 ATEX 3192X	ZELM 03 ATEX 3192X	ZELM 03 ATEX 3192X
Length of enclosure	90 mm	90 mm	90 mm
Diameter of enclosure	63 mm	63 mm	63 mm
Enclosure material	Zinc die casting, plastic	Zinc die casting, plastic	Zinc die casting, plastic
Connecting cable		Ho1N2-D 25 mm ² with cable lug and screw/nut (M10)	
Cable length	100 mm	200 mm	300 mm
Suitable for flange size	20-130 mm	120-230 mm	220-320 mm

Ordering information			
Type	EXFS L100	EXFS L200	EXFS L300
Part no.	923 060	923 061	923 062
Packing unit	1 pcs.	1 pcs.	1 pcs.

Accessory part for EXFS L/EXFS KU



Pair of angled connection brackets - IF 1
For EXFS...;
Diameter corresponds to bolt diameter of the flange screw joint (allows for max. 60 mm for d1, please confirm the diameter required when placing your order)

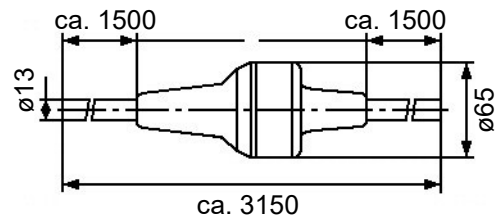
Type	Material	PU pcs.	Part no.
IF1	St/tZn	1	923 011



Pair of flat connection brackets - IF 3
For EXFS...;
Diameter corresponds to bolt diameter of the flange screw joint (allows for max. 60 mm for d1, please confirm the diameter required when placing your order)

Type	Material	PU pcs.	Part no.
IF3	St/tZn	1	923 016

**SPARK GAP
Type EXFS KU**

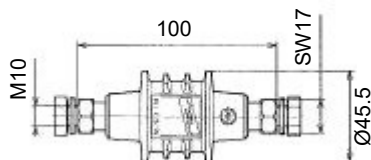


Dimension drawing EXFS KU

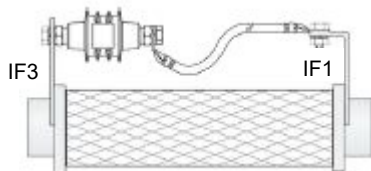
	EXFS KU
Lightning impulse current (10/350us) I_{imp}	50 kA
Classification of lightning current carrying capability according to EN 50165-3	N
Nominal discharge current (8/20us) I_n	100 kA
Rated power-frequency withstand voltage (50Hz) $U_{W/AC}$	300 V
100% lightning impulse sparkover voltage U_{as100}	$\leq 2,5$ kV
Power Frequency sparkover voltage (50Hz) U_{aw}	$\leq 1,2$ kV
Type of protection according to EN 50014, EN 50021	Ex II 3 G EEx nC II T4
Operating temperature range T_u	-20° to +80° C
Degree of protection	IP67
Approvals, certifications	ZELM 03 ATEX 3192X
Length of enclosure	90 mm
Diameter of enclosure	63 mm
Enclosure material	Zinc die casting, plastic
Connecting cable	YYY-J-1x25 mm ²
Cable length	2 x approx. 1500 mm

Ordering information	
Type	EXFS KU
Part no.	923 019
Packing unit	1 pcs.

**SPARK GAP
Type EXFS KU**



Dimension drawing EXFS 100



Installation of EXFS 100



- For indirect connection/earthing of functionally isolated installation components when being affected by lightning.
- Decide for lightning equipotential bonding according to IEC 62305 in explosion-hazard areas.
- For bridging insulating pieces, insulating flanges ect. in cathodically corrosion-protected pipe sections.
- For safe application in explosion protected zone 1 (gases) or 21 (dusts)
- Especially low sparkover voltage
- Especially high a.c. current withstand capability.

	EXFS 100
Lightning impulse current (10/350us) I_{imp}	100 kA
Classification of lightning current carrying capability according to EN 50164-3	H
Nominal discharge current (8/20us) I_n	100 kA
Rated power-frequency withstand voltage (50Hz) $U_{W/AC}$	250 V
100% lightning impulse sparkover voltage U_{rimp}	$\leq 1,25$ kV
Power Frequency sparkover voltage (50Hz) U_{aw}	$\leq 0,5$ kN
Rated discharge current (50Hz) I_{max}	500 A / 0,5 sec. ($T_U: \leq 45^\circ C$)
(Ex) marking acc. to EN 60079 (gases)	II 2G Ex d 11C T6
(Ex) Marking acc. to EN 61241 (combustible dust)	II 2D Ex tD A21 IP67 T 80°C
Operating temperature range T_u	-20° to +60° C
Degree of protection	IP67
Approvals, certifications	BVS 06 ATEX E 099
Length of enclosure	100 mm
Diameter of enclosure	45,5 mm
Enclosure material	Plastic coating
Connecting of enclosure	Thread nut M10, 2x M10x25 mm, 2x spring washers

Ordering information	
Type	EXFS 100
Part no.	923 100
Packing unit	1 pcs.