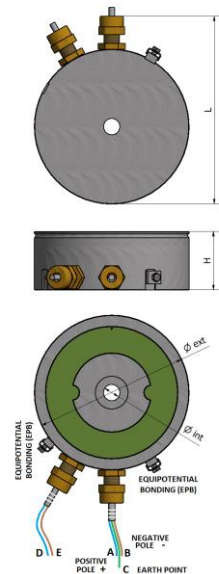
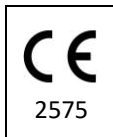


Type
 EXD130_xxx_0891
 EXD160_xxx_0891
 EXD180_xxx_0891



TECHNICAL DATA		EXD130_XXX_0891	EXD160_XXX_0891	EXD180_XXX_0891
Retention force		540 daN	990 daN	1300 daN
Supply voltage *		48 V _{DC} apply to terminals A and B		
Ripple max. *		20 %		
Absorbed current		0.65 A	1.22 A	1.56 A
Power consumption		31 W	59 W	75 W
Duty cycle *		40 %		
Switch ON * / Switch OFF			6 s / 9 s	
Cycles per hour			240	
Degree of protection EN 60529			IP65	
Materials		Housing: S235JR or S355JR Encapsulation (compound): epoxy potting resin		⚠ WARNING ⚠ KEEP AWAY FROM UV RAYS
Dimensions	Øext x H x L	130 x 60 x 155 mm	160 x 60 x 185 mm	180 x 60 x 205 mm
	Øint	17 mm		
Weight		4.6 kg	7.5 kg	10.0 kg
Ambient temperature *	Normal	-20°C +40°C		
	Storage	-20°C +60°C		
* ATTENTION! Failure to comply with the above values can irreparably damage the holding electromagnet and negatively affect the retention force; therefore a sufficient safety and reliability cannot be guaranteed. Designed for a specific duty cycle, as above indicated.				
Electrical connection		High temperature cable: two wires (A and B) + PE wire for the internal air coil 1 mm ² High temperature cable: two wires (D and E) for thermal protection circuit 1 mm ² EPB for external equipotential bonding (minimum 4 mm ² single wire). Screws torque 5.5 Nm		
Thermal protection		The holding electromagnet is provided with two self-resetting thermal protectors (cabled in series) and one thermal fuse. Maximum switching value for the temperature monitors: 5A, 250Vac/48Vdc. Refer to the wiring diagram on the next page for further details.		

SAFETY PRESCRIPTIONS

Carefully respect all the national and international laws, standards and regulations in force where the electromagnet is intended to be installed and used. Explosion-proof applications do not depend solely on the electromagnet but also on the electrical system in which is installed. The electrical system shall respect all the mandatory legislative and regulatory references as well. Installing and using the holding electromagnet with evident damages, defects and wear (cracks, exposure of encapsulated parts, dents, swelling, separation of adhering parts, detachment of parts, softening, damaged cables and glands) is dangerous and absolutely forbidden. The same concept is valid in case the holding magnet is dropped. Promptly contact ELFRI for the necessary support.

The following is deemed improper use and therefore forbidden:

- mechanical and/or electrical modification or any other kind of tampering to the holding electromagnet;
 - using the holding electromagnet in fields of application other than as described in INTENDED USE and TECHNICAL DATA on the previous page.
- Pay attention to the following important prescriptions:
- The equipment shall be protected against direct sunlight or ultraviolet lights.
 - Designed for a specific duty cycle, as indicated in the item description and on technical data box.
 - Reduce the impact velocity not more than 1 m/s and reduce the maximum potential impact energy not more than 500 J.
 - The user shall provide the required strain relief for both supply cable.

Any modification/tampering or inadequate installation may entail injuries and even death, property damage and economic loss.

INSTALLATION

ATTENTION! Installing the holding electromagnet is not sufficient to guarantee sufficient safety and reliability. Before installing the holding magnet, perform a risk assessment dedicated to the hazardous areas with potentially explosive atmospheres. ELFRI exclusively guarantees the safe functioning of the holding electromagnet to which this document refers and not the safety of the hazardous areas.

Installation shall be carried out by qualified and trained personnel who have read and understood this document.

Electrical connections shall be carried out in compliance with the TECHNICAL DATA written on the previous page.

Technical standards EN/IEC 60079-14 and EN/IEC 60079-17 shall be used as reference for proper and safe installation, inspection and maintenance of the electrical system.

Do not stress the holding electromagnet and its electric cables with bending and twisting. Do not exceed the tightening torque specified in the mounting procedure. Do not drill or varnish the holding electromagnet.

The equipment is furnished with the supply already connected, through a suitable cable gland. The connection of the free end of the cable shall be carried out in safe zone or suitably protected, using one of the types of protection foreseen by the standard CEI EN IEC 60079-0(2018-11) and IEC 60079-0.

Vibrations that may affect the proper functioning of the holding electromagnet must be avoided.

Make sure that the whole electrical system is compliant with the EMC Directive (electromagnetic compatibility).

Mounting

Fix the holding electromagnet by a M16 screw (material 8.8) in correspondence of the central hole shown in the figure above. Make sure to tighten the screw to the tightening torque according to the technical standard or suggested by the screw manufacturer (approximate value 170 ± 210 Nm).

Fix the holding electromagnet keeping its magnetic surface parallel to the surface to be held.

Connect the D-E terminals to the appropriate safety circuit to avoid damage at the holding electromagnet (see wiring diagram).

Connect the power line to the A-B terminals of the holding electromagnet (see wiring diagram). Use electric wires with insulation and section according to official regulations. Consider to place a flyback diode (minimum 3 A, minimum 1000 V).

When installing the electromagnets, the encapsulation surface must be protected against mechanical damage and light exposure. Therefore, the armature plate must be installed directly in front of the holding surface of the electromagnet. The space between the armature plate and the magnet must be protected by a folding bellows.

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 Via Friuli, 9 33050 Gonars (UD) Tel. (+39) 0432.931425 mail elfri@elfri.com www.elfri.com	Rev. 01
Dated 22.10.2025	
HOLDING ELECTROMAGNET	

Type

EXD130_xxx_0891

EXD160_xxx_0891

EXD180_xxx_0891

CE
2575



MAINTENANCE The electromagnets do not require particular maintenance, but an inspection is recommended every 6 months or at shorter intervals depending on the intensity of use. The inspection includes the visual and functional check, verification of the integrity of the electromagnet and the electric power cables, as well as the tightening of all the screws.

If the device is exposed to heavy charge-separating processes, dangerous electrostatic charges can occur. Charge-separating processes are, for example, direct exposure to pneumatic transport media.

- Avoid heavy charge-separating processes at the installation site and during cleaning.

- Clean only with water or damp cloths.

- Avoid unintentional and dry rubbing.

- Do not clean with compressed air, high-pressure or steam jets.

- Earth the device housing.

ATTENTION! When cleaning the electromagnet, avoid generating electrostatic currents.

Disconnect the electrical power and clean the surfaces with a damp rag. Allow wetted parts to dry completely before restoring power.

ATTENTION! Do not disassemble or try to repair the holding electromagnet. In case of malfunction or failure it is mandatory to replace it.

With de-energised holding electromagnet (upstream main switch opened):

- visually check the absence of damages, defects and wear (cracks, exposure of encapsulated parts, dents, swelling, separation of adhering parts, detachment of parts, softening, damaged cables and glands);
- check the proper fixing of the holding electromagnet as well as that of the object/surface intended to be coupled.
- check the correct tightening of:
 - 8 Nm torque for cable glands;
 - 5.5 Nm torque for screws of equipotential bondings;
 - 170 ÷ 210 Nm torque for M16 screw used to fix the electromagnet.

The above values are indicative.

Make sure to tighten the screw to the tightening torque according to the technical standard or suggested by the screw manufacturer.

With energised holding electromagnet (upstream main switch opened):

- check that the holding electromagnet properly withholds the object/surface intended to be couples (refer to USE AND FUNCTIONAL TEST).

DISPOSAL

At the end of service life, the holding magnet must be properly disposed according to the laws in force in the country in which the disposal takes place.

In general:

- it is forbidden to dispose of it in a household waste container;
- it is forbidden to dispose of it as unsorted waste.



SUPPORT

For all that is not mentioned and in case of any doubt, always contact our technical department tecnico@elfri.com.

This document together with the EU Declaration of Conformity and the EU-type certification is made available by ELFRI on www.elfri.com

CERTIFICATIONS

ATEX Directive 2014/34/EU

Certificate number **ITS-I 23 ATEX 32846 X** - Notified body **2575**

IECEx scheme

Certificate number **IECEx ITS 25.0031X**

⚠ WARNING ⚠

**KEEP AWAY FROM UV RAYS
POTENTIAL ELECTROSTATIC CHARGING HAZARD**