

Ex n / Ex t Solenoid Coil Type 0558



Operating Instructions

Dear Customer!

To ensure the function and for your own safety, please read these operating instructions carefully before you begin with the installation. If there should still be any questions, please refer to nass magnet GmbH.

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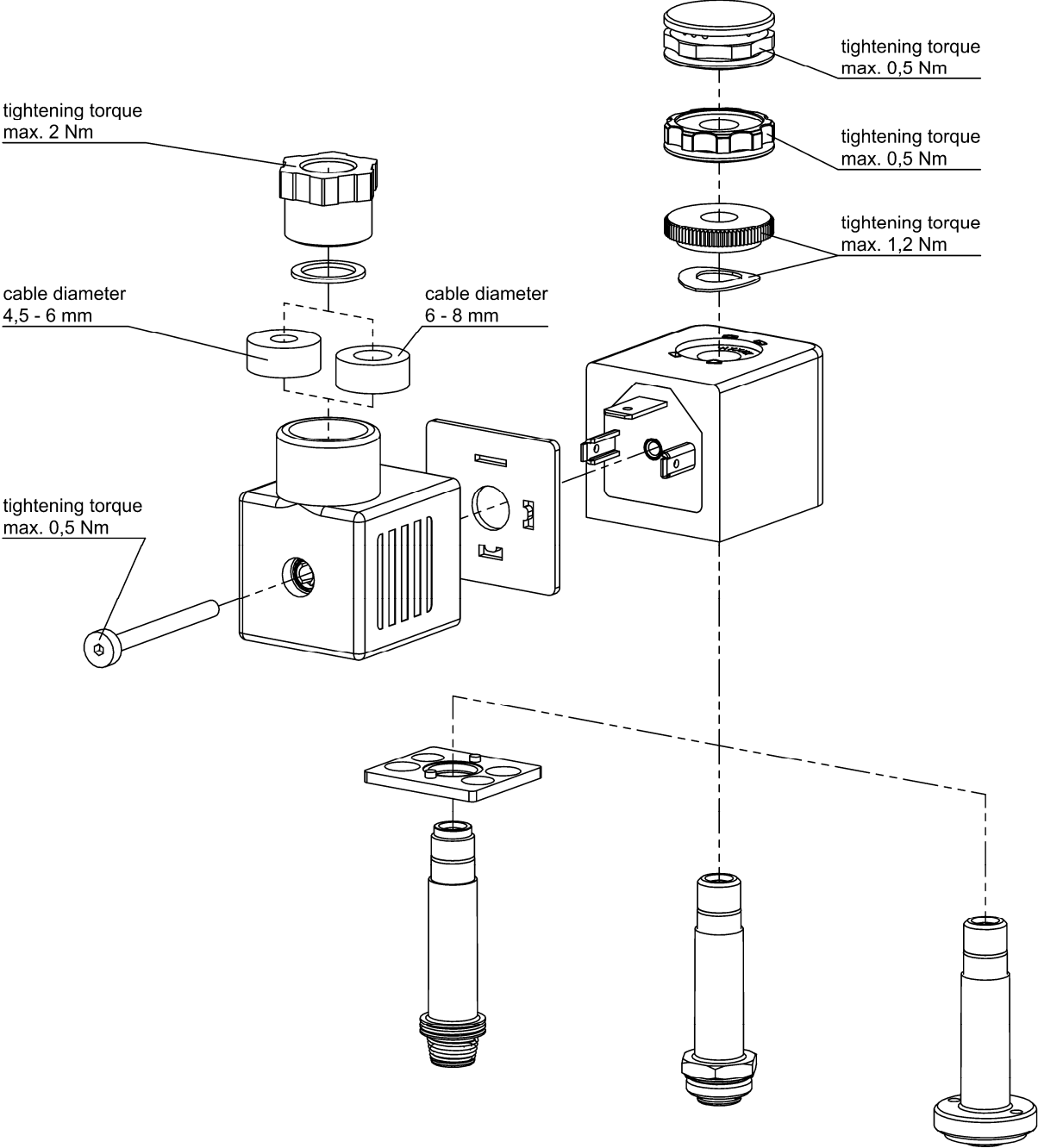
General terms and conditions

- In case of non-observance of these notes, as well as in case of improper interventions into the device, any manufacturer's liability by ourselves is voided. Furthermore, the guarantee on devices and accessories is invalidated.
- **The nass magnet solenoid coils are for use exclusively as solenoid valves with the nass magnet armature assemblies and nass magnet valve systems; please consider the corresponding power levels.**
- In the assembled state, the Ex-solenoid coils **Type 0558 50**, Certificate Number **nm 13.0069 X**, are suitable as operating resources of the equipment group II for:
 - **Gas-explosion hazard areas of Zone 2.**
They correspond to **Category 3 G** and to ignition protection **Ex nA IIC T5 Gc**, "Non-sparking device", equipment protection level (EPL) Gc.
 - **Dust-explosion hazard areas of Zone 22** in combination with a suitable Ex-equipment connector.
They correspond to **Category 3 D** and ignition protection **Ex tc IIIC T95°C Dc IP65**, "Protection through housings", equipment protection level (EPL) Dc.
- Over and above the applicable general regulations of the technology, these operating instructions refer to **special conditions for safe use (Symbol "X")**, as well as to further in-service conditions which are absolutely to be considered. However, these operating instructions cannot consider all possible conditions and applications completely, and do not replace the specifications valid in each case.

Installation

- In case of installation and maintenance, the corresponding Ex-specification, in particular EN 60079-14, and the national specifications for electrical safety, are absolutely to be considered.
- Symbol "X": Installation only in areas with low level of mechanical danger (in accordance with EN 60079-0, 26.4)
- After the removal of the packaging, ensure that no dirt penetrates the system.
- Before the installation of the system, ensure that there is no dirt accumulation in the pipes or in the valve housing.
- Note that, in systems under pressure, lines and valves may not be loosened.
- Take suitable precautions in order to exclude unintentional activation or inadmissible impairment.
- Ensure that O-rings and seals are not damaged during installation.
- Any arbitrary installation position is admissible, preferably with solenoid coil above.
- The solenoid coil can be offset by 45° and ratcheted in position.
- No setting-adjustments may be carried out on the solenoid coil.
- In case of selection of the valve housing material, the following must be considered:
 - Cast alloy:
The maximal admissible mass contents for the stipulated equipment protection levels may not exceed the following values:
Group III EPL Gc: No requirements;
 - Plastic:
To avoid the build-up of electrostatic charges, the conditions according to EN 60079-0, Section 7.4, are to be considered.
- Electrical connection in areas of explosive gas atmospheres:
Degree of protection IP 44 must be guaranteed, e.g. with a connector according to EN 175301-803 Type A or ISO 4400.
- Electrical connection in areas of explosive dust atmospheres:
Symbol "X": Ex approved connector, according to EN 175301-803 type A or ISO 4400, which guarantees degree of protection IP 65 with the solenoid coil. Note here the necessary and maximum torque of the fixing screw and the tool provided for that.
- Before operational start-up of the device, it must be ensured that the entire machine and system corresponds to the determinations of the applicable directives of the European Union (e.g. the EMC Directive).

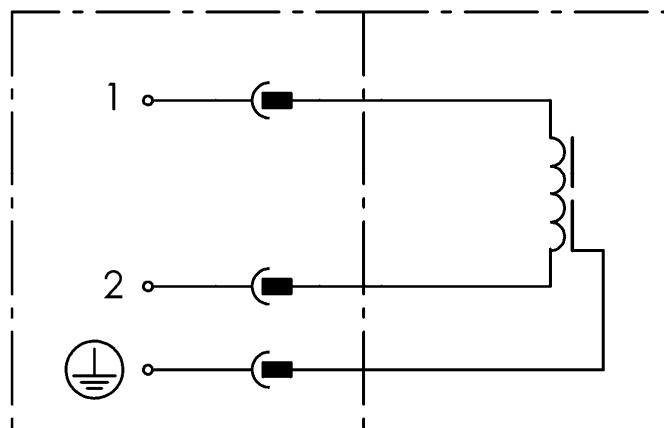
Assembly scheme



Technical data of the Ex-solenoid coils

| Type No. | mass magnet power level | Nominal voltage | Nominal current | Power input | Ambient temperature |
|--------------|-------------------------|--|-------------------------|----------------------------|---------------------|
| 0558 50/5146 | 3 | 24 V DC | 83 mA | 2.0 W | -20 °C...+50 °C |
| 0558 50/5143 | 3 | 24 V 50 Hz AC 24 V 60 Hz AC | 166 mA 127 mA | 4.0 VA 3.1 VA | -20 °C...+50 °C |
| 0558 50/5140 | 3 | 110 V 50 Hz AC 110 V 60 Hz AC 120 V 60 Hz AC | 36 mA 28 mA 33 mA | 4.0 VA 3.1 VA 4.0 VA | -20 °C...+50 °C |
| 0558 50/6395 | 3 | 230 V 50 Hz AC 230 V 60 Hz AC 240 V 60 Hz AC | 18 mA 14 mA 15 mA | 4.0 VA 3.1 VA 3.5 VA | -20 °C...+50 °C |
| 0558 50/5147 | 4 | 24 V DC | 112 mA | 2.7 W | -20 °C...+50 °C |

circuit diagram



Operation

The disconnection of the Ex-plug connector from the Ex-solenoid coil may be implemented in voltage-free status only!

- The maximum surface temperature is $T = 95^{\circ}\text{C}$. Caution, danger of injury exists!
- Symbol "X": The Ex-solenoid coils Type 0558 of the temperature Class T5 are suitable for an ambient temperature range from -20°C to $+50^{\circ}\text{C}$, and a maximum media temperature of $+50^{\circ}\text{C}$.
- The solenoid coils are suitable for single mounting with a duty factor of 100%.
- The operating pressure of the device depends on the armature/valve system employed in each case. The mass magnet standard armature system is suited for up to 12 bars (1200 kPa) and has no extra identification. For operating pressures greater than 12 bars, further documents are available.
- Gases and liquids, which do not attack the system and the sealing materials, are admissible as media.
- Avoid bringing the device into contact with liquid or corrosive media from externally.
- Do not load the system through bending or torsion.
- Prevent any sharp buckling or damaging of the connecting leads, in order to avoid short circuits and interruptions.

Malfunctions

- If malfunctions occur, check the line terminals, the operating voltage and the operating pressure.
- Check that there is no external damage.
- If the failure should persist or if external damage is identifiable, the device must be taken out of operation. Ensure that no pressure or electric voltage is applied to the device.
- Defective devices may not be repaired.
- Please order spare parts in complete form, with specification of the Ident. Number which is attached on the devices (label, rating plate).

EU Declaration of Conformity

nass magnet GmbH, Hanover, declares and bears sole responsibility for the following Ex products to be in compliance with the safety standards:

Solenoid coil type 0558 50/...



II 3G Ex nA IIC T5 Gc
II 3D Ex tc IIIC T95 °C Dc IP65

The solenoid coil bears the Certificate Number

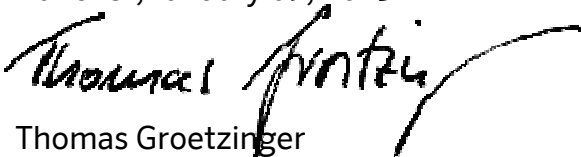
nm 13.0069 X

The solenoid coil is a type of protection “n” electrical equipment, designed for application in explosive gas atmospheres of Group IIC according to Category 3G, or – in combination with a suitable type of protection by enclosures “t” connector – for application in explosive dust atmospheres of Group IIIC according to Category 3D. The Equipment Protection Level (EPL) is Gc respectively Dc.

The device, that bears the CE marking, meets the following standards:

| | |
|----------------------|--|
| EN 60079-0:2009 | Explosive atmospheres – Part 0: Equipment - General requirements |
| EN 60079-15:2010 | Explosive atmospheres – Part 15: Equipment protection by type of protection “n” |
| EN 60079-31:2009 | Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure “t” |
| EN 60 529:2000 | Degrees of protection provided by enclosures (IP code) |
| DIN VDE 0580:2011 | Electromagnetic devices and components – General specifications |
| Directive 94/9/EC | Equipment and protective systems intended for use in potentially explosive atmospheres |
| Directive 2011/65/EU | on the restriction of the use of hazardous substances in electrical and electronic equipment (recast of 8 June 2011) |

Hanover, January 09, 2013



Thomas Groetzinger

General Manager