**Nass Magnet GmbH**
**Eckenerstraße 4-6**
**D-30179 Hannover**

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GB

# Solenoid Operator 1262

Operating Instructions NN 8220 130 and EC Declaration of Conformity

Dear Customer !

In order to guarantee good operation and for your own safety, please read the enclosed operating instructions attentively, before starting installation. Should there still arise any question or queries, please contact Nass Magnet GmbH.

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# Operating Instructions

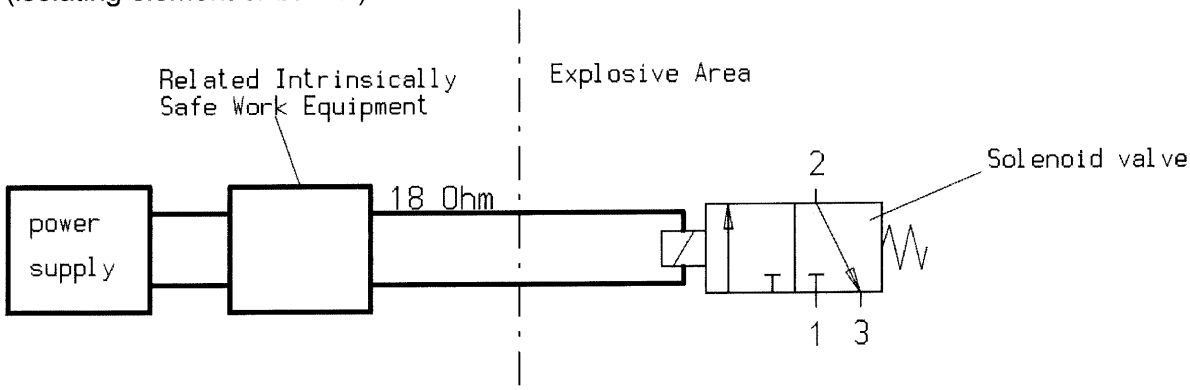
## General Conditions

- We are not liable for any damage caused by non-observation of this information as well as in case of improper intervention regarding this device. Furthermore, warranty for the devices and accessories will become void.
- Please observe the information given in the present operating instructions as well as the application conditions and admissible data indicated on the imprints / type plates of the respective devices
- **The PTB approval exclusively covers solenoid operators with nass magnet armature assembly and with nass magnet solenoid coil.**
- Follow the generally accepted technical rules when selecting and operating a unit.
- Take proper action to exclude unintentional activation or inadmissible impairment.
- Cables and valves in pressurized systems must not be detached.
- **Caution! Risk of injury! The solenoid's surface can get very hot during continuous operation.**

## Installation

- Make sure that after removing the packing no dirt can penetrate into the system.
- Before mounting the system, check that there is no dirt in the piping or the valve housing.
- When inserting the system, make sure that the O-ring at the flange respectively the screw-in thread is not damaged.
- Mounting is allowed in any position. Preferably, the magnet system has to point to the top.
- The solenoid can be locked by 45°.

- The standards for Ex-parts, especially DIN EN 60079-14, DIN EN 60079-26 and IEC 61241-0, must be observed for the installation and maintenance of the parts. With additional respect to national relevant directives (in Germany VDE 0100), the electrical installation must be carried out by a specialist (electrician) or under the supervision of such a specialist.
- At choice of the material of the valve bodies it must be observed for:
  Zone 1, category 2G
  - casting alloy:
    The maximum admissible percent by weight may, in total, not exceed 7.5% magnesium, when, according to the ignition hazard assessment, a risk of ignition by friction, stroke or friction sparks exists.
  - plastic:
    The surface resistance may only be at < 1GΩ or be projected in each direction according to EN 60079-0 by limitation of the surface to max. 20 cm².
- Electrical connection in gas-explosive locations:
  solder and plug-in terminals suitable for push-on receptacles 6,3 DIN 46247 or appliance socket according to EN 175301-803, version A or ISO 4400 respectively.
- Electrical connection in locations presenting a dust-explosion hazard: Application of the supplied appliance socket 6-11174-0101 according to EN 175301-803, version A or ISO 4400 respectively is imperative.
- The diameters or widths of cables with an elongated, non-conductive surface, independent of their length, must not exceed the following measures:
  3 mm for the work equipment of group IIB, and
  1 mm for the work equipment of group IIC.
- The solenoid has to be connected by inserting related intrinsically safe work equipment (isolating element or barrier) in accordance with the manufacturer's instructions.




- Power supply from certified intrinsically safe circuits for:

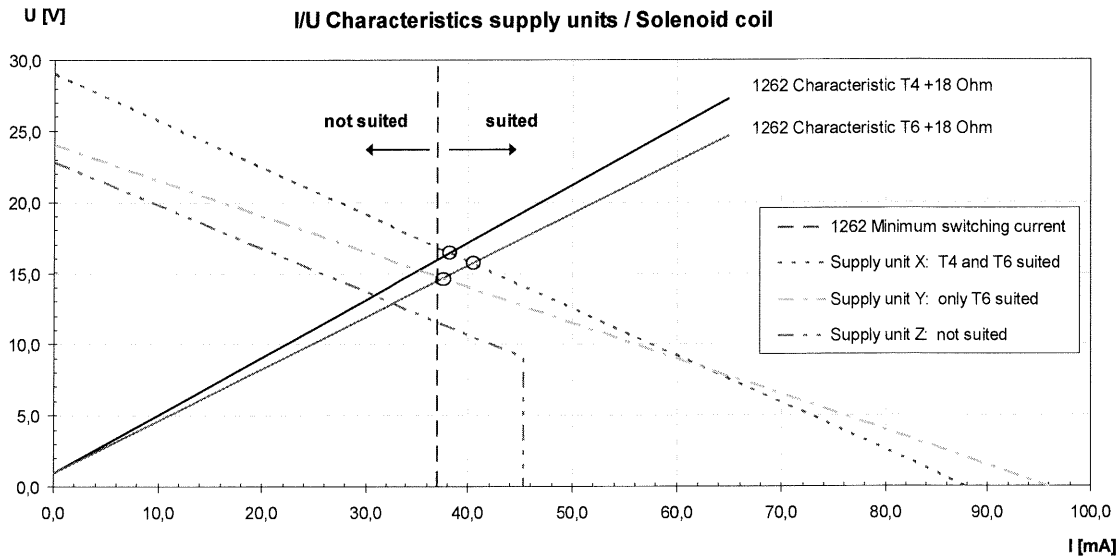
| | | |
|---|---|---|
| II 2G Ex ia IIC T4 | U < 28 V | I < 115 mA |
| II 2D Ex tD A21 IP65 T 130° C | U < 28 V | I < 115 mA |
| II 2G Ex ia IIC T6 | U < 28 V | I < 115 mA |
| II 2D Ex tD A21 IP65 T 80° C | U < 28 V | I < 115 mA |
| II 2G Ex ia IIB T4 | U < 32 V | I < 195 mA |
| II 2D Ex tD A21 IP65 T 130° C | U < 28 V | I < 115 mA |
| II 2G EEx ia IIB T6 | U < 32 V | I < 195 mA |
| II 2D Ex tD A21 IP65 T 80° C | U < 28 V | I < 115 mA |

The inductance and capacitance acting at the terminals is negligible.

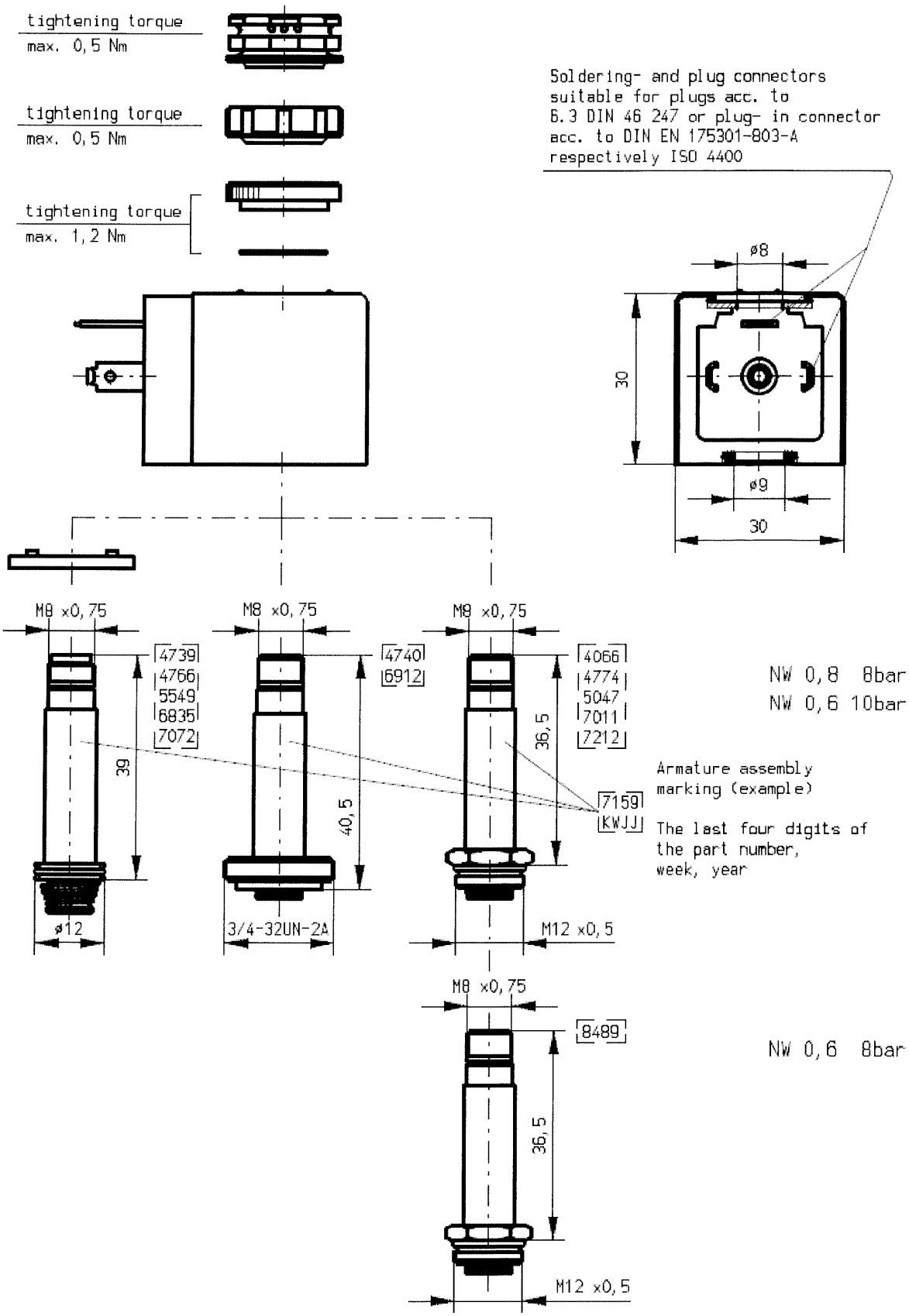
- For securing the switching functions in the entire temperature range a minimum switching current is necessary. At maximum heat of the coil, an equivalent resistance of the coil must be assumed (values see table). In the characteristic diagramme have been considered an additional line resistance of 18 Ohm and a series voltage of 1V, needed for the internal electronics.

| WV | minimum switching current [mA] | nominal resistance [Ω] | equivalent resistance T4 [Ω] | equivalent resistance T6 [Ω] | NW / operating pressure |
|---|---|---|---|---|---|
| 5146 | 37 | 275 | 385 | 345 | 0,8 8bar |
| | | | | | 0,6 10bar |
| 7210 | 27 | 400 | 510 | 455 | 0,6 8bar |

- As an example, three possible characteristics of supply units are charted below. At interconnection, the units work at the point of intersection of the respective characteristics. The operating point must be on the right side of the characteristic of the minimum switching current (in this example 37 mA). In the following example, the results are as follows:
  Supply unit X is suited.
  Supply unit Y is only suited for T6.
  Supply unit Z is not suited.
  The characteristics of the supply units can be learnt from the supplier's data sheets.




- Before initial operation of the device, make sure that the overall equipment respectively the unit meets the requirements of the applicable EC directives (e.g. the EMC directive).
- Please order spare parts completely by indicating the identification number provided on the units (imprint / type plate).


tightening torque
max. 0,5 Nm
tightening torque
max. 0,5 Nm
tightening torque
max. 1,2 Nm
Soldering- and plug connectors
suitable for plugs acc. to
6.3 DIN 46 247 or plug- in connector
acc. to DIN EN 175301-803-A
respectively ISO 4400
ø8
30
ø9
30
M8 x0,75
4739
4766
5549
6835
7072
39
ø12
M8 x0,75
4740
6912
40,5
3/4-32UN-2A
M8 x0,75
4066
4774
5047
7011
7212
36,5
7159
KWJJ
M12 x0,5
NW 0,8 8bar
NW 0,6 10bar
Armature assembly
marking (example)
The last four digits of
the part number,
week, year
M8 x0,75
8489
36,5
M12 x0,5
NW 0,6 8bar

## Operation

- Admissible media are gas and liquids that do not affect the system and the gasket material contained therein.
- The solenoid operators 1262 00 to 1262 49 of temperature class T6 are suitable for the following conditions:
    - Ambient temperature range from -40°C to +50°C
    - Maximum admissible media temperature: +70°C
- The solenoid operators 1262 50 to 1262 99 of temperature class T4 are suitable for the following conditions:
    - Ambient temperature range from -40°C to +85°C
    - Maximum admissible media temperature: +80°C
- The solenoid operators are suitable for single and series mounting.
- Prevent the device's exterior surfaces from getting in contact with liquid or corrosive media.
- The device's operating pressure depends on the armature/valve system used. However, the maximum limit of 12 bars must not be exceeded.
- Do not strain the system by bending or torsion.
- Prevent the connecting cables and strands from being buckled in order to avoid short circuits and interruptions.

## Malfunction

- Check the cable connections, operating voltage and pressure, should malfunctions occur.
- Should the malfunction not be removed thereby, check that the device is not under pressure and disconnect the device from the power supply.
  Defective Ex-units must be replaced and may, in no case, be repaired.

# EC Declaration of Conformity

Nass Magnet GmbH, Hannover, declares on its own responsibility, the accordance with the safety standards for the following Ex-products:

| | | | |
|---|---|---|---|
| Solenoid operator | 1262 00 to | 1262 49 | II 2G Ex ia IIC T6<br>II 2D Ex tD A21 IP65 T80°C |
| | | | II 2G Ex ia IIB T6<br>II 2D Ex tD A21 IP65 T80°C |
| Solenoid operator | 1262 50 to | 1262 99 | II 2G Ex ia IIC T4<br>II 2D Ex tD A21 IP65 T130°C |
| | | | II 2G Ex ia IIB T4<br>II 2D Ex tD A21 IP65 T130°C |

The homologation certificate with the number

**PTB 09 ATEX 2001**

issued by the PTB (certification authority no. 0102) is applicable for the solenoid operator.

The solenoid operator is an intrinsically safe electrical work equipment of group IIC and group IIB, designed for application in atmospheres according to category 2G and 2D (temperature class as per imprint).

The device, which is provided with the CE symbol, meets the following standards respectively directives:

| | |
|---|---|
| DIN EN 60079-0:<br>2007-05 | Electrical apparatus for explosive gas atmospheres<br>Part 0: General requirements |
| DIN EN 60079-11:<br>2007-08 | Explosive atmospheres<br>Part 11: Equipment protection by intrinsic safety "i" |
| DIN EN 61241-0:<br>2006-12 | Electrical work equipment used in locations containing flammable dust<br>Part 0: General requirements |
| DIN EN 61241-1:<br>2005-06 | Electrical work equipment used in locations containing flammable dust<br>Inflammation-protection type: tD |
| DIN EN 60529:<br>2000-09 | Degrees of protection provided by enclosures (IP Code) |
| DIN VDE 0580:<br>2000-07 | Electromagnetic devices and components - General specifications |
| Directive 94/9/EG | Equipment and protective systems intended for use in potentially explosive atmospheres |

Hanover, 2008-10-27

Klaus Kirchheim

Management