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GB

Operating Manual Solenoid Valve 0519

Operating Manual 113-720-0002 and EC Declaration of Conformity

Dear Customer!

Please read the enclosed Operating Manual with due care before you begin with installation to ensure function and not least for your own safety. Should you, nevertheless, have questions, please contact **nass magnet GmbH.**

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General Conditions

- Please abide by the instructions of this Operating Manual and the implementation conditions and permissible data which can be found in the labelling of the respective devices. We bear no liability whatsoever upon non-abidance by these instructions and if the devices are tampered with unprofessionally. Furthermore, the guarantee expires for such devices and components.
- In its installed condition the device is only licensed in the combined ignition protection type “e mb“ for the potentially explosive gas atmospheres of the group IIC - EPL Gb with an ignition temperature higher then T4 (alternative T6) and for the potentially explosive gas atmospheres of the group IIIC - EPL Db.
- This license is solely applicable to the solenoid valves with **nass magnet** anchor system and **nass magnet** solenoid coil.
- Do not undertake any impermissible changes to the devices as such, or to the individual components. The license may expire as a result.
- This printout does not stand for a guarantee agreement. In such connection we draw your attention to our General Sales and Business Terms and Conditions.

Particular Conditions (Installation / Maintenance)

- When taking the device out of the packaging, make sure that no dirt enters the device. The same applies to the connection lines or the valve casing which may not be soiled either.
- Conduits and valves under pressure may not be loosened. Only assemble and install under in depressurized condition.
- When installing take care that the o-rings and seals included in the supplies are not damaged.
- The centre-to-centre spacing from one device to the other must be at least 55mm.
- Optional installation position permissible, solenoid coil at top preferred.
- Cable screwed connections can be used for connection cables and duct diameters of 6 mm to 13 mm.
- The connection cables and ducts must be fixedly laid to the device. The user must and shall provide a strain relief.

- To prevent short circuits or interruptions the connection cables must be laid with a bend radius adapted to the cables implemented.
- The connection cables and ducts must be suitable for continued utilisation in a temperature range of -40 °C to +105 °C.
- The sizing cross section of the electric conductor may amount to 0.5 mm² to 2.0 mm². One-wire, multi-wire and fine wire conductors may be used.
- The ends of the wires must be complete and not damaged when installed in the connection terminal contact. A suitable tool shall be used.
- The connection box casing may only be opened when there is no voltage impact.
- Before starting up the device check that all the threaded connections have been mounted correctly.
- For installation and maintenance the corresponding EX directives, particularly EN 60079-14 and EN 60241-14, must, without fail be abided by. The electrical installation shall be carried out by a qualified electrician, under the supervision of the latter respectively, while considering additional relevant national directives (in Germany VDE 0100).
- A fuse (max. 3x. rated connector current according to DIN 41571 or IEC 60127-2-1), or a motor overload trip and thermal quick release (set to rated connector current) must be installed as short-circuit protection upstream to each device. This fuse unit may be fitted in the appertaining supply device or must be installed separately upstream. The fuse rated voltage must be the same or greater than the given nominal voltage of the device. The breaking capacity of the fuse set must be equal to or greater than the maximum short circuit current to be expected at place of installation (customary 1500 A).
- To avoid electro-static charging of components which are directly installed to the device (valve casing, valve block) the following material restrictions shall apply:
    - Metal: The mass share of magnesium and/or titanium may not exceed <7.5%.
    - Plastic: Surface resistance may amount to $<10^9$ Ω. Or the entire continuous surface may amount to <20 cm² (interruptions of the surface, e.g. by ribs/fins are permissible). Or the plastic surface shall be coated with a conductive layer.
- The devices can be of the fused types IP65 and IP67. The use of special mounting accessories is required for the protection type IP67.
- Take the necessary measures to exclude unintentional activation or impermissible impairment.
- When operating in an orderly manner, the device is maintenance-free.

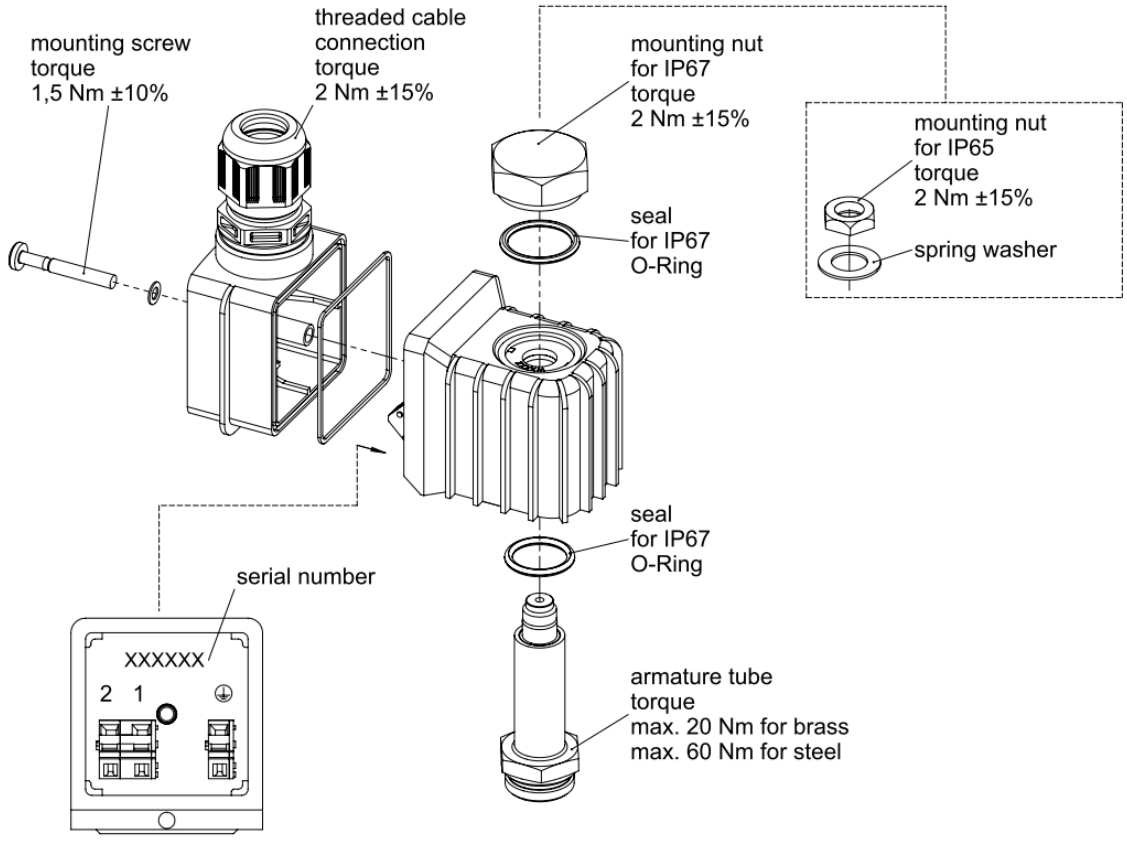
Operation

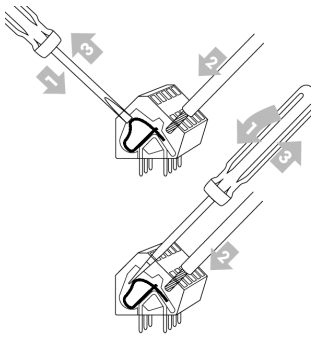
- The device may only be operated with gases and liquids which neither corrode the system nor the sealing materials implemented.
- Avoid having the exterior of the device coming into contact with aggressive, corrosive media.
- Do not burden the device by bending or torsion.
- The operating pressure of the device depends on the respectively used anchor system and may amount to a maximum of 40 bar. The standard anchor system is suitable up to 12 bar and does not bear a separate Identification label. The anchor system is marked with the max. operating pressures when above >12 bar.
- The surface of the magnetic coil can be very hot in operation. Attention, danger of injury!

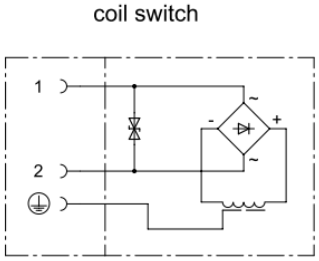
Failures

- In case of failures check the cable connection, operating voltage and operating pressure.
- Check for exterior damage.
- Should the failure persist or exterior damage be detected, the device must be taken out of operation. Ensure that there is neither pressure nor electric voltage at the device.
- Defect devices may not be repaired. Please contact the manufacturer for spare parts giving the ID number printed on the part.

Installation sketch







Technical Specifications

Type T4	Temperature Class T4 – for use of nass magnet power level 3 II 2 G - Ex e mb IIC T4 Gb II 2 D - Ex tb mb IIIC T130°C Db IP65, IP67
Type of voltage	Alternating current as 50…60 Hz or direct current at max. 45% residual ripple
Voltage tolerance	-10 % ... +10 %
Ambient temperature	-40°C … +60°C
Temperature of media	-40°C … +70°C

Type number [1]	nominal voltage[2]		nominal current [3]		power			
	AC $U_{N,AC}$ [V]	DC $U_{N,DC}$ [V]	AC $I_{N,AC}$ [mA]	DC $I_{N,DC}$ [mA]	Apparent S_{AC} [VA]	Active $P_{W,AC}$ [W]	Nominal $P_{N,DC}$ [W]	Cutout [4] [mA]
0519 00/7148 0519 00/7148 IP	12		844	938	10,1	8,0	11,3	1600
0519 00/7149 0519 00/7149 IP	24		432	480	10,4	8,7	11,5	1000
0519 00/7153 0519 00/7153 IP	36		288	319	10,4	8,9	11,5	600
0519 00/7150 0519 00/7150 IP	48		187	208	9,0	7,8	10,0	400
0519 00/7151 0519 00/7151 IP	110		90	100	9,9	8,8	11,0	200
	115	-	94	-	10,8	9,6	-	
	120	-	98	-	11,8	10,5	-	
0519 00/7152 0519 00/7152 IP	125		78	87	9,8	8,7	10,9	150
0519 00/7137 0519 00/7137 IP	220		47	52	10,4	9,3	11,5	100
	230	-	49	-	11,3	10,1	-	
	240	-	51	-	12,3	11	-	

1) Type number without IP describes type of fuse IP65. With IP the fuse type is IP67. This can only be implemented with the corresponding component parts.

2) Nominal voltage = rated voltage

3) Nominal current = rated current for short circuit fuse

4) Recommended fuse size (~1,7x rated current). A fuse (max. 3x rated current according to DIN 41571 or IEC 60127-2-1), or a motor overload trip respectively, with short circuit and thermal quick release (set to current rate) is connected upstream to each solenoid valve. This protection/fuse may be fitted in the appertaining supply unit or must be separately installed upstream. The fuse rated voltage must be the same or greater than the given nominal voltage of the solenoid valve. The breaking capacity of the fuse set must be equal to or greater than the maximum short circuit current to be expected at place of installation (customary 1500 A).

Type T6	Temperature Class T4 – for use of nass magnet power level 2 II 2 G - Ex e mb IIC T6 Gb II 2 D - Ex tb mb IIIC T80°C Db IP65, IP67							
Type of voltage	Alternating current as 50…60 Hz or direct current at max. 45% residual ripple							
Voltage tolerance	-10 % ... +10 %							
Ambient temperature	-40°C … +60°C							
Temperature of media	-40°C … +70°C							
Type number [1]	nominal voltage[2] AC $U_{N,AC}$ [V]	nominal voltage[2] DC $U_{N,DC}$ [V]	nominal current[3] AC $I_{N,AC}$ [mA]	nominal current[3] DC $I_{N,DC}$ [mA]	power Apparent S_{AC} [VA]	power Active $P_{W,AC}$ [W]	power Nominal $P_{N,DC}$ [W]	Cutout [4] [mA]
0519 60/7196 0519 60/7196 IP	12		406	451	4,9	3,8	5,4	800
0519 60/7156 0519 60/7156 IP	24		207	230	5,0	4,6	5,5	400
0519 60/7154 0519 60/7154 IP	36		135	150	4,9	4,2	5,4	300
0519 60/7197 0519 60/7197 IP	48		91	101	4,4	3,8	4,9	200
0519 60/7198 0519 60/7198 IP	110		42	47	4,6	4,1	5,1	100
	115	-	44	-	5,1	4,5	-	
	120	-	46	-	5,5	4,9	-	
0519 60/7155 0519 60/7155 IP	-	125	-	36	-	-	4,5	75
0519 60/7195 0519 60/7195 IP	220		22	25	4,9	4,4	5,5	50
	230	-	23	-	5,4	4,8	-	
	240	-	24	-	5,9	5,2	-	

1) Type number without IP describes type of fuse IP65. With IP the fuse type is IP67. This can only be implemented with the corresponding component parts.

2) Nominal voltage = rated voltage

3) Nominal current = rated current for short circuit fuse

4) Recommended fuse size (~1,7x rated current). A fuse (max. 3x rated current according to DIN 41571 or IEC 60127-2-1), or a motor overload trip respectively with short circuit and thermal quick release (set to current rate) is connected upstream to each solenoid valve. This protection/fuse may be fitted in the appertaining supply unit or must be separately installed upstream. The fuse rated voltage must be the same or greater than the given nominal voltage of the solenoid valve. The breaking capacity of the fuse set must be equal to or greater than the maximum short circuit current to be expected at place of installation (customary 1500 A).

EC Declaration of Conformity

The company Nass Magnet GmbH as manufacturer hereby declares that the solenoid valves described in the above comply with the requirements of the following European Directives:

- 2006/95/EC - on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits
- 2004/108/EC - on the approximation of the laws of the Member States relating to electromagnetic compatibility
- 2006/42/EC – Machine Directives
- 94/9/EC - on equipment and protective systems intended for use in potentially explosive atmospheres (ATEX)

The following professional standards were drawn on for the evaluation in connection with abidance by the above named directives:

DIN EN 60079-0: 2010	Atmospheres with an explosion potential - Section 0: Devices – General requirements
DIN EN 60079-7: 2007	Atmospheres with an explosion potential - Section 7: Device protection by increased safety "e"
DIN EN 60079-18: 2010	Atmospheres with an explosion potential - Section 18: Device protection by encapsulation “m“
DIN EN 60079-31: 2010	Atmospheres with an explosion potential - Section 31: Equipment dust ignition protection by enclosure "t"
DIN EN 60529: 2000	Types of protection by casing (IP-Code)
DIN EN 61000-6-4: 2007	Electro-magnetic compatibility (EMC) - Section 6-4: minimum technical standards – transient emission for industrial sectors
DIN EN 61000-6-2: 2006	Electro-magnetic compatibility (EMC) - Section 6-2: minimum technical standards – transient emission for industrial sectors

The solenoid valves were licensed by the following Test Certification:

PTB 11 ATEX 2027 X

In process inspection is carried out by the Physikalisch-Technische Bundesanstalt (PTB), Bundesallee 100, 38116 Braunschweig bearing the licensing centre No. 0102.

This declaration is given in the name of the manufacturer by

Hanover, 02.04.2012 — Klaus Kirchheim

(Place, Date) — General Management