HAFNER Pneumatika Kft.
H-9228 Halászi
Püski út 3.

ATEX OPERATING INSTRUCTIONS AND DECLARATION OF CONFORMITY – LOW TEMPERATURE VALVES

Dear Customer!

Thank you for choosing a Hafner valve. To assure the function and for your own safety please read the following operating instructions carefully, before installing the product. If there are any further questions, please do not hesitate to contact us:

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The operating instructions are valid for the following valve-types:
MH 310 501 TT, MOH 310 501 TT, MH 320 501 TT, MH 510 501 TT, MH 520 501 TT, MH 531 501 TT, MH 532 501 TT, MH 533 501 TT, MH 311 012 TT, MH 311 015 TT,
MH 310 701 TT, MOH 310 701 TT, MH 320 701 TT, MH 510 701 TT, MH 520 701 TT, MH 531 701 TT, MH 532 701 TT, MH 533 701 TT, MH 311 013 TT, MH 311 017 TT,
MNH 310 701 TT, MNH 310 711 TT, MNH 510 701 TT, MNH 510 711 TT, MNH 520 701 TT, MNH 531 701 TT, MNH 532 701 TT, MNH 350 701 TT,

P 310 501 TT, P 320 501 TT, P 510 501 G TT, P 520 501 G TT, P 531 501 G TT, P 532 501 G 0TT, P 533 501 G TT,
P 310 701 G TT, P 320 701 G TT, P 510 701 G TT, P 520 701 G TT, P 531 701 G TT, P 532 701 G TT, P 533 701 G TT,
PN 310 701 TT, PN 510 701 TT, PN 520 701 TT, PN 531 701 TT.

Also valves of the stainless steel range (type VES) and valves with the CNOMO interface (type MC, MOC and MNC) are included.
These valves can be used – if they are marked appropriately (please refer to the declaration of conformity) – in potentially explosive atmospheres. Zones and product categories the valves and the solenoid systems can be used in are defined and explained in the declaration of conformity. Use in other areas or in different combination as mentioned below is not allowed!
The operating instructions are to be used together with the manual of the appropriate solenoid system. The manual of the solenoid system is relevant for the electrical part of the product, this manual for the non-electrical.

In General:
Please notice that not following these instructions or any kind of inappropriate engagement lead to the end of any kind of warranty and liability from our side. Please notice the means of use described in these instructions and print-on on the product itself.
Application and operation of the device must ensue in accordance to general terms of technology.
Please undertake any means to avoid unintended actuation and inappropriate use.
Always take into consideration that pressurised fittings, tubes and systems are not to be opened.
Observe all national and international regulation of relevance.
The solenoid valves are designed for controlling pneumatic actuators with compressed air. The valves are not intended for the use with fluids or gases.

Installation:
When taking the product out of the packaging take care that no dirt or other particles are coming into the product.
Only use appropriate fittings that do not cause or lead to any dirt in the system. Only use clean fittings and tubing.
The valve can be installed in any desirable position, preferably upwards.
Install the product in a way that regular cleaning is possible. Do not over-bend the air supplies.
Installation is allowed only through educated work-force and under consideration of the relevant operating instructions.

Avoid electrostatic charge of product and attached accessories including tubes and cables. Tubes and bundles of tubing must not have an outer diameter of not more than 20 mm.
Connect conductive metal parts together for potential equation and ground the entire system.
For the electrical installation observe the instruction of the solenoid system.
Close unused ports. Avoid potentially explosive atmosphere inside the valve, pipe exhaust to outside.
Only use the valve with the enclosed coils. Systems for Ex ia, Ex e mb, Ex dm and Ex d (for detailed information please refer to the declaration of conformity) as marked on the valve and on the coil, mixing of components is not allowed.

Operation:
Only use cleaned and lubricated or cleaned and unlubricated compressed air quality level ISO 8573-1 [7:4:4]. If using lubricated air in an explosive gas atmosphere make sure that it is taken out of this atmosphere by appropriate means. Compressed air must not be drawn from an explosive atmosphere.
The temperature rise of the product is linked to the used media and the temperature rise of the coils.
For the Ex e mb and Ex ia systems, the temperature of the compressed air must be between -40°C and +50°C. When using the valve below 0°C make sure to use dried air.
The environment where the valve is used has to be in a temperature range between -40°C and +50°C. The system Ex dm can be used with a compressed air temperature and in an environmental temperature of -50°C to +50°C.
The system Ex d can be used with a compressed air temperature and in an environmental temperature of -50°C to +40°C (please take note about the temperature specifications in the manual of the solenoid system).
If used below 0°C only use dried air. The condensation point has to be at least 15° C below the temperature of the environment and medium.
Please observe the temperature class printed onto the coil. The valve body generally remains colder than the coils.
Avoid that the valve gets in contact with liquids or corrosive media.
The maximum operating pressure of Ex e mb, Ex dm and Ex d systems is 10 bar. The maximum operating pressure of Ex ia system is 8 bar.
Over-pressurising of the valve might lead to functional failures. For the minimum operating pressure, please refer to the technical datasheet.
Do not bend the product. Do not over-bend hoses or cables.
Check the function of the product regularly, minimum every 6 month or after 5 million switches.

Malfunctioning:
Check the electric and pneumatic connections, operating pressure and voltage.
If the problems are not solved by these means make sure the pressure is taken off the system and dismantle the product from the electrical source. Address authorised and educated personnel.

Warnings:
Repair-work of any means inside the product is only to be made by authorised and educated personnel and with appropriate tools. Any warranty and liability of the manufacturer expires with unauthorised engagement.
Avoid injury! The product, especially the coil might be hot during of shortly after operation.
Only use the product in combination with the approved products of the solenoid system manufacturer, the permission expires when other solenoids are used.
Impacts involving rusty or light metal and their alloys might cause sparks. Do not use tools with corroded surfaces and protect product from falling objects.
Dust on hot surfaces is highly inflammable, please clean regularly.

	Declaration of conformity **Explosion-proof-directive**	Archive-No.: 066/04

The company **HAFNER Pneumatika Kft.**
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as the sole responsible part hereby declares that under the provision of directive 2014/34/EU of the European Parliament and the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to equipment and protective systems intended for use in potentially explosive atmospheres in its current form, that the above enlisted products as referred to in this declaration comply with the following standards and normative documents in their valid form:
EN 13463-1:2009 Non-electrical equipment for use in potentially explosive atmospheres. – Part 1: Basic method and requirements
EN 13463-5:2011 Non-electrical equipment intended for use in potentially explosive atmospheres. – Part 5: Protection by constructional safety 'c'
The documents are stored as required by the directive 2014/34/EU article 13 (1) b) ii and c) at: IBExU, Institut für Sicherheitstechnik GmbH Freiberg (Sachsen).

The **electrical valves** are marked, defining the zone they are to be used in; valve-solenoid-combinations are to be chosen as follows. Other use and combination is not allowed!

	Allowed area	Mark on valve	Mark on solenoid (examples)	Short description of solenoid
Ex e mb T4 T6	Group II, Category 2, Gas (II2G): for Zones 1, 2 Group II, Category 2, Dust (II2D): for Zones 21, 22	CE Ex II2G/D c T4 -40°C ≤ Ta ≤ 60°C II2G/D c T6 -40°C ≤ Ta ≤ 50°C	Ex II 2 G Ex e mb IIC T4 Gb II 2 D Ex tb mb IIIC T130°C Db Ex II 2 G Ex e mb IIC T6 Gb II 2 D Ex tb mb IIIC T80°C Db	width 52 mm, different voltages, type 0519
Ex dm T5	Group II, Category 2, Gas (II2G): for Zones 1, 2 Group II, Category 2, Dust (II2D): for Zones 21, 22	CE Ex II2G/D c T5 -50°C ≤ Ta ≤ 50°C	Ex II 2G Ex db mb IIC T5 Gb X II 2D Ex tb IIIC T95°C IP66 Db X	width 36 mm, different voltages, type 30XDM
Ex d T6	Group II, Category 2, Gas (II2G): for Zones 1, 2 Group II, Category 2, Dust (II2D): for Zones 21, 22	CE Ex II2G/D c T6 -50°C ≤ Ta ≤ 40°C	Ex II 2 G Ex d IIC T6 II 2 D Ex tD A21 IP66	width 52 mm, different voltages, type EP000/d/TB
Ex ia T6	Group II, Category 2, Gas (II2G): for Zones 1, 2 Group II, Category 2, Dust (II2D): for Zones 21, 22	CE Ex II2G/D c T6 -40°C ≤ Ta ≤ 50°C	Ex ia IIC T6 Ga Ex ia IIB T6 Ga Ex t IIIC T80°C Db IP65	width 30 mm 24DC, type 1262 00 / W5146

The **pneumatic valves** are marked as follows:

Allowed area	Mark on valve
Group II, Category 2, Gas (II2G): for Zones 1, 2 Group II, Category 2, Dust (II2D): for Zones 21, 22	CE Ex II2G/D c T6 -50°C ≤ Ta ≤ 50°C

Halászi, November 2015

Ernő Novák
General Manager