ZERTIFIKAT | CERTIFICATE | CERTIFICAT | CERTIFICADO | СЕРТИФИКАТ | شهادة | 证书 | 인증서

TÜV AUSTRIA

Certificate

(1) **EU - TYPE EXAMINATION CERTIFICATE**
in accordance with Directive 2014/34 / EU, Annex III, point 6

(2) Equipment or Protective System Intended for use in Potentially Explosive Atmospheres - **Directive 2014/34/EU**

(3)	EU - Type Examination Certificate Number:	**TÜV-A 21ATEX0102 X**
(4)	Product:	Solenoid valve MA52 3/2 NC... EXD G...
(5)	Manufacturer:	HAFNER Pneumatika Kft.
(6)	Address:	Püski út 3, 9228 Halászi Hungary

(7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) TÜV AUSTRIA SERVICES GMBH, Notified Body number 0408, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that these products have been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Report No. PB_TUV-A 2021-TAD-000096_REV00

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-31:2014

except in respect of those requirements listed at item 18 of the schedule.

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

Deutschstraße 10
1230 Wien / Österreich
Tel.: + 49 711 722 336-18
E-Mail: explosionsschutz@tuv.at
Web http://www.tuv.at

TÜV AUSTRIA

(12) The marking of the product shall include the following:

Equipment group:	II
Equipment category:	2G / 2D
Equipment protection level:	Gb / Db
Ignition protection type:	Ex db / Ex tb
Temperature class:	T6 T80°C
Explosion group:	IIC or IIIC
Temperature range:	-40°C ≤ Ta ≤ +50°C
Marking (examples):	**II 2G Ex db IIC T6 Gb -40°C ≤ Ta ≤ +50°C** **II 2D Ex tb IIIC T80°C Db -40°C ≤ Ta ≤ +50°C**

Online Verification

Wien
Place

2022-01-19
Date

Michael Reuschel
Notified Body 0408
TÜV AUSTRIA SERVICES GMBH

Deutschstraße 10
1230 Wien / Österreich
Tel.: + 49 711 722 336-18
E-Mail: explosionsschutz@tuv.at
Web http://www.tuv.at

TÜV AUSTRIA

(13)

Schedule

(14) Certificate Number TÜV-A 21ATEX0102 X

(15) **Description of Product**

The device is a solenoid valve with round Ex-d terminal box and completely Ex-d encapsulated and glued solenoid coil.

The heating of the product depends on the mediums used and the heating of the coils. For the Ex d systems, the temperature of the compressed air must be between -40°C and +50°C. When using the valve below 4°C, make sure that dried air is used. The environment in which the valve is used must be in a temperature range between -40°C and +50°C.

Avoid contact of the valve with liquids or corrosive media. The maximum operating pressure of Ex d systems is 10 bar and the minimum operating pressure is 1 bar. Overpressurization of the valve can lead to functional failures. Do not bend the product or kink the hoses too much. Regularly check the proper functioning of the valve by switching the valve at least once a month.

To ensure continued proper operation of the valve, you must replace the valve at least once in 6 months or in 500,000 switching cycles. The installation should be carried out in accordance with the requirements of IEC 60079-17 and all relevant additional national regulations

The "TS" versions are equipped with a thermal protection sensor. In case of thermal shutdown, please wait until the solenoid has cooled down below 60 °C to restart the solenoid system.

Dust on hot surfaces is highly flammable, please clean regularly.

Technical data:

Application:	Compressed air
Temperature compressed air:	-40°C to +50°C
Max. operating pressure:	10 bar
Min. operating pressure:	1 bar
Thermal protection sensor shutdown:	< 60°C

Deutschstraße 10
1230 Wien / Österreich
Tel.: + 49 711 722 336-18
E-Mail: explosionsschutz@tuv.at
Web http://www.tuv.at

Housing material:	AISI 316L / 1.4404
Protectin class:	IP6X
Coil voltage (model dependent):	24V DC / 110V AC / 230V AC

(16) **Report Number**

PB_TUV-A 2021-TAD-000096_REV00

(17) **Specific Conditions of Use**

a) The intended use of the machine, as specified by the manufacturer, must be observed.
b) It is the responsibility of the operator to prevent the introduction of foreign bodies into the machine which pose an ignition hazard.
c) The operator must ensure that possible dangerous electrostatic charges on the unit and any connected accessories, including hoses and cables, are avoided.
d) Care must be taken to ensure that the device is not subjected to any other loads or mechanical stresses when installed. Avoid impacts with rusty or light metals and protect the product from falling objects.
e) Clean the surfaces regularly and avoid dust deposits.
f) When used in a dust atmosphere, the flameproof entries or plugs must be selected and installed to maintain the dust tightness (IP6X) of the enclosure.
g) The solenoid is not designed for repair or overhaul in an explosive atmosphere. Observe the instructions in the operating manual regarding repairs.
h) Installation should be performed in accordance with the requirements of IEC 60079-19 and any relevant additional national regulations.
i) A temperature range of -40°C to +50°C, which deviates from the standard, applies to the device.

(18) **Essential Health and Safety Requirements**

Met by the standards mentioned above.

Deutschstraße 10
1230 Wien / Österreich
Tel.: + 49 711 722 336-18
E-Mail: explosionsschutz@tuv.at
Web http://www.tuv.at

TÜV AUSTRIA

(19) **Drawings and Documents**

Dokument / Zeichnungsnummer / Datei / Referenz	Rev	Seiten	Datum	Bezeichnung
Hafn_20TH0500_Magnetventil_ExTR21.002100_0 draft	/	59 Pages	04.12.2021	Operating Instructions
ZFKT_TUV-A 2021-TAD-000096_REV00_DE	/	5 Pages	09.12.2021	Test report
BTA-EXD-EN--40C-20211213.docx	/	2 Pages	13.12.2021	Operating Instructions
DoC-EXD-EN--40C-20211213	/	1 Pages	13.12.2021	Declaration of Conformity
MA52 3_2 NC 24DC EXD G TS.pdf	/	1 Pages	11.12.2020	Drawing
Rohmaterial Datenblätter.zip	/	/	18.01.2021	Datasheets material
Technische Zeichnungen.zip	/	/	18.01.2021	Technical drawing

TÜV AUSTRIA SERVICES GMBH
Deutschstraße 10
1230 Wien / Österreich
Tel.: + 49 711 722 336-18
E-Mail: explosionsschutz@tuv.at
Web http://www.tuv.at

ZERTIFIKAT | CERTIFICATE | CERTIFICAT | CERTIFICADO | СЕРТИФИКАТ | شهادة | 证书 | 인증서

TÜV AUSTRIA

Zertifikat - Certificate

(1) **EU-Baumusterprüfbescheinigung**
gemäß Richtlinie 2014/34/EU, Anhang III, Ziffer 6

(2) Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen **- Richtlinie 2014/34/EU**

(3)	EU-Baumusterprüfbescheinigungsnr.	**TÜV-A 21ATEX0102 X**
(4)	Gerät	Vorsteuermagnet MA52 3/2 NC... EXD G...
(5)	Hersteller:	HAFNER Pneumatika Kft.
(6)	Anschrift:	Püski út 3, 9228 Halászi Ungarn

(7) Die Bauart dieses Gerätes sowie die verschiedenen zulässigen Ausführungen sind in der Anlage zu dieser Baumusterprüfbescheinigung festgelegt.

(8) TÜV AUSTRIA SERVICES GMBH bescheinigt als notifizierte Stelle Nr. 0408 nach Artikel 17 der Richtlinie des Rates der Europäischen Gemeinschaften vom 26. Februar 2014 (2014/34/EU) die Erfüllung der grundlegenden Sicherheits- und Gesundheitsanforderungen für die Konzeption und den Bau von Geräten und Schutzsystemen zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen gemäß Anhang II der Richtlinie.

Die Ergebnisse der Prüfung sind in dem vertraulichen Prüfbericht PB_TUV-A 2020-TAD-000076_SDR_REV00 festgelegt.

(9) Die grundlegenden Sicherheits- und Gesundheitsanforderungen werden erfüllt durch Übereinstimmung mit

EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-31:2014

mit vorbehaltlicher Berücksichtigung der angeführten Anforderungen in Punkt 18 der Anlage.

(10) Falls das Zeichen "X" hinter der Bescheinigungsnummer steht, wird auf besondere Bedingungen für die sichere Anwendung des Gerätes in der Anlage zu dieser Bescheinigung hingewiesen.

(11) Diese EU-Baumusterprüfbescheinigung bezieht sich nur auf Konstruktion, Überprüfung und Tests des spezifizierten Gerätes oder Schutzsystems in Übereinstimmung mit Richtlinie 2014/34/EU. Weitere Anforderungen der Richtlinie können für das Herstellungsverfahren und die Inverkehrbringung dieses Gerätes oder Schutzsystems gelten. Diese sind von vorliegender Bescheinigung nicht abgedeckt.

Deutschstraße 10
1230 Wien / Österreich
Tel.: + 49 711 722 336-18
E-Mail: explosionsschutz@tuv.at
Web: http://www.tuv.at

(12) Die Kennzeichnung des Gerätes muss die folgenden Angaben enthalten:

Gerätegruppe:	II
Gerätekategorie:	2G / 2D
Geräteschutzniveau:	Gb / Db
Zündschutzart:	Ex db / Ex tb
Temperaturklasse:	T6 T80°C
Explosionsgruppe:	IIC oder IIIC
Temperaturbereich:	-40°C ≤ Ta ≤ +50°C
Gesamtkennzeichnung:	**II 2G Ex db IIC T6 Gb -40°C ≤ Ta ≤ +50°C** **II 2D Ex tb IIIC T80°C Db -40°C ≤ Ta ≤ +50°C**

Online Verification

Wien
Ort
Place

19.01.2022
Datum
Date

Michael Reuschel
Notifizierte Stelle 0408
Notified Body 0408
TÜV AUSTRIA SERVICES GMBH

Deutschstraße 10
1230 Wien / Österreich
Tel.: + 49 711 722 336-18
E-Mail: explosionsschutz@tuv.at
Web: http://www.tuv.at

(13)

Anlage

(14) EU-Baumusterprüfbescheinigung TÜV-A 21ATEX0102 X

(15) **Beschreibung des Gerätes**

Das Gerät ist ein Magnetventil mit rundem Ex-d-Anschlusskasten und komplett Ex-d-gekapselter und verklebter Magnetspule.

Die Erwärmung des Produkts hängt von den verwendeten Medien und der Erwärmung der Spulen ab. Bei den Ex d-Systemen muss die Temperatur der Druckluft zwischen -40°C und +50°C liegen. Beim Einsatz des Ventils unter 4°C ist darauf zu achten, dass getrocknete Luft verwendet wird. Die Umgebung, in der das Ventil eingesetzt wird, muss in einem Temperaturbereich zwischen -40°C und +50°C liegen.

Vermeiden Sie, dass das Ventil mit Flüssigkeiten oder korrosiven Medien in Berührung kommt. Der maximale Betriebsdruck von Ex d-Systemen beträgt 10 bar und der minimale Betriebsdruck beträgt 1 bar. Eine Überdruckbeaufschlagung des Ventils kann zu Funktionsausfällen führen. Biegen Sie das Produkt nicht und knicken Sie die Schläuche nicht zu stark ab. Prüfen Sie regelmäßig die einwandfreie Funktion des Ventils, indem Sie das Ventil mindestens einmal im Monat schalten.

Um weiterhin die einwandfreie Funktion des Ventils zu gewährleisten müssen Sie das Ventil mindestens einmal in 6 Monaten oder in 500.000 Schaltspielen auswechseln. Die Installation sollte in Übereinstimmung mit den Anforderungen der IEC 60079-17 und allen relevanten zusätzlichen nationalen Regelwerken durchgeführt werden

Die Ausführungen "TS" sind mit einem Thermoschutzsensor ausgestattet. Im Falle einer thermischen Abschaltung warten Sie bitte, bis der Magnet unter 60 °C abgekühlt ist, um das Magnetsystem wieder zu starten.

Staub auf heißen Oberflächen ist leicht entzündlich, bitte regelmäßig reinigen.

Technische Daten:

Anwendung:	Druckluft
Temperatur Druckluft:	-40°C und +50°C
Max. Betriebsdruck:	10 bar
Min. Betriebsdruck:	1 bar
Abschaltung Thermoschutzsensor:	< 60°C
Gehäusematerial:	AISI 316L / 1.4404
Schutzart:	IP6X
Spulenspannung (Modellabhängig):	24V DC / 110V AC / 230V AC

TÜV AUSTRIA SERVICES GMBH

Deutschstraße 10
1230 Wien / Österreich
Tel.: + 49 711 722 336-18
E-Mail: explosionsschutz@tuv.at
Web: http://www.tuv.at

(16) **Prüfbericht**

PB_TUV-A 2020-TAD-000133_REV00

(17) **Besondere Bedingungen**

a) Die bestimmungsgemäße Verwendung des Gerätes, welche vom Hersteller vorgegeben ist, muss beachtet werden.
b) Es liegt in der Verantwortung des Betreibers zu verhindern, dass keine Fremdkörper, die eine Zündgefahr darstellen, in das Gerät eingebracht werden.
c) Der Betreiber muss sicherstellen, dass mögliche gefährliche elektrostatische Aufladungen am Gerät und des ggf. angeschlossenen Zubehörs, einschließlich Schläuchen und Kabeln, vermieden wird.
d) Es ist darauf zu achten, dass das Gerät keinen weiteren Belastungen oder mechanischen Beanspruchungen im eingebauten Zustand ausgesetzt wird. Vermeiden Sie Stöße mit rostigen oder leichten Metallen und schützen Sie das Produkt vor herabfallenden Gegenständen.
e) Reinigen Sie die Oberflächen regelmäßig und vermeiden Sie Staubablagerungen.
f) Beim Einsatz in einer Staubatmosphäre müssen die druckfesten Einführungen oder Verschlussstopfen so ausgewählt und installiert werden, dass die Staubdichtigkeit (IP6X) des Gehäuses erhalten bleibt.
g) Der Magnet ist nicht für eine Reparatur oder Überholung in explosionsfähiger Atmosphäre ausgelegt. Beachten Sie die Hinweise in der Betriebsanleitung bezüglich Reparaturen.
h) Die Installation sollte in Übereinstimmung mit den Anforderungen der IEC 60079-19 und allen relevanten zusätzlichen nationalen Regelwerken durchgeführt werden.
i) Es gilt ein vom Standard abweichender Temperaturbereich von -40°C bis +50°C für das Gerät.

(18) **Wesentliche Gesundheits- und Sicherheitsanforderungen**

Durch die Anwendung der o. a. Normen abgedeckt

TÜV AUSTRIA SERVICES GMBH

Deutschstraße 10
1230 Wien / Österreich
Tel.: + 49 711 722 336-18
E-Mail: explosionsschutz@tuv.at
Web: http://www.tuv.at

(19) **Zeichnungen und Dokumente**

Dokument / Zeichnungsnummer / Datei / Referenz	Rev	Seiten	Datum	Bezeichnung
Hafn_20TH0500_Magnetventil_ExTR21.002100_0 draft	/	59 Seiten	04.12.2021	Zugehörige Normenprotokolle + Püfergebnisse
ZFKT_TUV-A 2021-TAD-000096_REV00_DE	/	5 Seiten	09.12.2021	Baumusterzertifikat
BTA-EXD-EN--40C-20211213.docx	/	2 Seiten	13.12.2021	Betriebs- und Installationsanleitung
DoC-EXD-EN--40C-20211213	/	1 Seite	13.12.2021	EU-Konformitätserklärung
MA52 3_2 NC 24DC EXD G TS.pdf	/	1 Seite	11.12.2020	Beispiel Zeichnung
Rohmaterial Datenblätter.zip	/	/	18.01.2021	Datenblätter Material
Technische Zeichnungen.zip	/	/	18.01.2021	Technische Zeichnungen

TÜV AUSTRIA SERVICES GMBH

Deutschstraße 10
1230 Wien / Österreich
Tel.: + 49 711 722 336-18
E-Mail: explosionsschutz@tuv.at
Web: http://www.tuv.at

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

EU DECLARATION OF CONFORMITY ACCORDING TO

DIRECTIVE 2014/34/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

Object of the declaration (product type numbers):

MA52 3/2 NC 24DC EXD G TS

MA52 3/2 NC 110AC EXD G TS

MA52 3/2 NC 230AC EXD G TS

Product type number keys:

MA52 3/2 NC … EXD G TS

MA52: magnet system with diameter 52 mm

3/2: 3/2-way system

NC: normally closed

…: voltage variations 24 V DC, 110 V AC, 230 V AC

G: with cast metal parts body, cap, plate

TS: with thermal cut-off

Name and address of the manufacturer:

HAFNER Pneumatika Kft.

9228 Halászi, Püski út 3.

HUNGARY

This declaration of conformity is issued under the sole responsibility of the manufacturer.

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

2014/34/EU on the harmonisation of the laws of the Member States relating to equipment and protective systems intended for use in potentially explosive atmospheres (ATEX directive)

References to the relevant harmonised standards used in relation to which this conformity is declared:

EN 60079-0:2018 Explosive atmospheres. Part 0: Equipment. General requirements.

EN 60079-1:2014 Explosive atmospheres. Part 1: Equipment protection by flameproof enclosures "d"

EN 60079-31:2014 Explosive atmospheres. Part 31: Equipment dust ignition protection by enclosure "t"

The notified body TÜV AUSTRIA Deutschland GmbH (CE marking number: 0408) performed the assessments and audits according to EN ISO/IEC 80079-34, 2014/34/EU, and issued the certificates: TÜV-A 21ATEX0102 X and IECEx EPS 21.0055X.

Additional information:

The marking of the solenoid systems:

These magnet systems can be used – if they are marked as seen above – in potentially explosive atmospheres. Use in other areas than mentioned above is not allowed:

Group II, Category 2, Gas (II 2 G): for Zones 1, 2

Group II, Category 2, Dust (II 2 D): for Zones 21, 22

Halászi, 13.12.2021

Gergely Ujváry

General Manager

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	**IECEx EPS 21.0055X**	Page 1 of 3	Certificate history:
Status:	**Current**	Issue No: 0	
Date of Issue:	2021-12-16		
Applicant:	**HAFNER Pneumatika Kft.** Püski út 3 Halászi 9228 **Hungary**		
Equipment:	**Solenoid valve MA52 3/2 NC... EXD G...“**		
Optional accessory:			
Type of Protection:	**db, tb**		
Marking:	Ex db IIC T6 Gb Ex tb IIIC T80 °C Db		

Approved for issue on behalf of the IECEx Certification Body: **Ulrich Feike**

Position: **Head of Certification**

Signature: (for printed version)

Date: 2021-12-16

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

Bureau Veritas Consumer Products Services Germany GmbH
Businesspark A96
86842 Türkheim
Germany

IECEx Certificate of Conformity

Certificate No.: **IECEx EPS 21.0055X**

Date of issue: 2021-12-16

Issue No: 0

Manufacturer: **HAFNER Pneumatika Kft.**
Püski út 3
Halászi 9228
Hungary

Additional manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

DE/EPS/ExTR21.0021/00

Quality Assessment Report:

DE/EPS/QAR21.0013/00

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The equipment is a solenoid valve with circular Ex-d connection box and completely Ex-d housed and cemented solenoid coil.

Electrical data:

MA52 3/2 NC 24DC EXD G TS

MA52 3/2 NC 110AC EXD G TS

MA52 3/2 NC 230AC EXD G TS

Ambient temperature range: -40 °C ≤ Ta ≤ +50 °C

SPECIFIC CONDITIONS OF USE: YES as shown below:
Only models with temperature fuse can be used in EPL Gb environment.

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

INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS FOR MA52 3/2 NC... EXD G TS ATEX MAGNET SYSTEMS

Dear Customer!

Thank you for choosing a HAFNER product. 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:
Phone: +36-96-210-601
E-Mail: ertekesites@hafner-pneumatika.com

This document is valid for the following ATEX magnet systems, with ignition protection type "d" (flameproof):
MA52 3/2 NC 24DC EXD G TS
MA52 3/2 NC 110AC EXD G TS
MA52 3/2 NC 230AC EXD G TS

Product type number keys:
MA52 3/2 NC … EXD G TS
MA52: magnet system with diameter 52 mm
3/2: 3/2-way system
NC: normally closed
…: voltage variations 24 V DC, 110 V AC, 230 V AC
G: with cast metal parts body, cap, plate
TS: with thermal cut-off

Name and address of the manufacturer:
HAFNER Pneumatika Kft.
9228 Halászi, Püski út 3.
HUNGARY

The marking of the solenoid systems:

These magnet systems can be used – if they are marked as seen above – in potentially explosive atmospheres. Use in other areas than mentioned above is not allowed:
Group II, Category 2, Gas (II 2 G): for Zones 1, 2
Group II, Category 2, Dust (II 2 D): for Zones 21, 22

Instructions for safety:
DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT!
DO NOT OPEN WHEN ENERGIZED!
DO NOT SEPARATE WHEN ENERGIZED!
SEPARATE ONLY IN A NON-HAZARDOUS AREA!
LIVE PARTS BEHIND COVER – DO NOT CONTACT!
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. The waste management of the product has to be performed strictly according to the current country's regulations.

<u>On-site assembling:</u>
Please notice that not following these instructions or any kind of inappropriate engagement leads 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.
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 more than 20 mm.

Installation and erection:

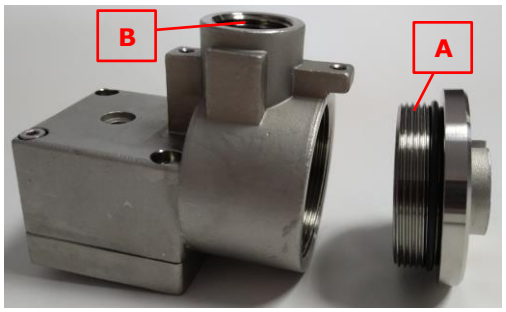
Connect conductive metal parts together for potential equation and ground the entire system. During the installation of the equipment please comply with the concerned standards, for example: ISO/TR 11688 (noise-reduction), EN 626-1 (emission-reduction). The solenoid and its mountings are designed to support the self-weight of the solenoid assembly. Care should be taken to avoid the unit being exposed to any further loads or mechanical stresses.

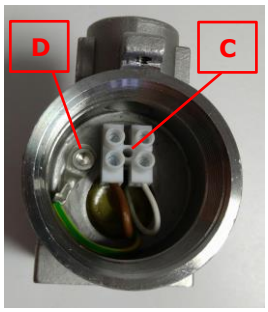
Important Note! Both threaded connections to the housing are flame paths and are an integral part of the Ex II 2 G/D enclosure. Ensure that both are securely tightened before the solenoid is energised.

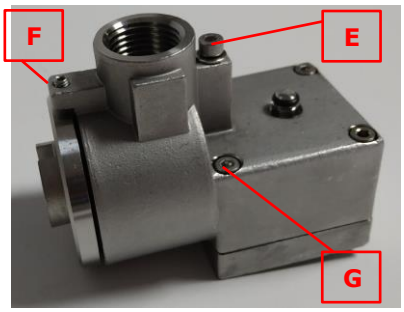
Installation should be undertaken in accordance with the requirements of IEC 60079-14 and any relevant additional National codes of practice.

When used in a dust atmosphere the flameproof entries or stopping plugs shall be selected and installed so that the dust tight (IP6X) integrity of the enclosure is maintained.

Putting into service:







1. Remove the M45x1,5 termination cover (A).
2. The electrical supply should be fed through the cable gland entry (B). Only the accordingly certified ATEX / IECEx cable glands are allowed to use!
3. Connect electrical supply leads to 2-pole terminal block (C).
4. Make earth connections to internal earth point (D) and external earth point (E).
5. On completion of electrical connections, refit the M45x1,5 termination cover (A), tighten and secure with the locking screw (F).

Information about verifications / tests prior to the (first) use of the equipment:

Switch the operator system both by manual override and by electrical operation to ensure the correct function of the equipment.

The allowed voltage ranges for the different voltage versions:

24 V DC version (±10%): 21,6 … 26,4 V DC

110 V AC version (±10%): 99 … 121 V AC

230 V AC version (±10%): 207 … 253 V AC

Special installation requirements:

Solenoid enclosure manufactured from stainless steel AISI 316L / 1.4404.

This solenoid must not be installed in environments that would react with the apparatus to cause explosions or affect the protection concept.

This equipment is designed and manufactured to protect against other hazards as defined in paragraph 1.2.7 of Annex II of ATEX Directive 2014/34/EU.

Avoid exposing the equipment to aggressive substances.

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 d systems, the temperature of the compressed air must be between -40°C and +50°C. When using the valve below 4°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. 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 d systems is 10 bar. Over-pressurising of the valve might lead to functional failures. The minimum operating pressure is 1 bar. Do not bend the product. Do not over-bend hoses. Do not step onto the product. Check regularly if the valve operates perfectly, by switching the valve at least once in a month.

Use and setting-up:

Please ensure that the intended area for use is within the specifications of the equipment: it can be used in the Zones 1, 2, 21,22, and the ambient and medium temperature has to be between -40 °C and + 50 °C. The maximum surface temperature of the equipment can be in case of Zones 1, 2: +85 °C, in case of Zones 21, 22: +80°C. The pressure of the medium is allowed only between 1 and 10 bar.

Repair and maintenance:

The solenoid is not designed to be repaired or overhauled in the field. In the event that the unit requires repair it must be returned to HAFNER Pneumatika Kft.

Equipment inspection, maintenance, repair, overhaul and reclamation should be undertaken in accordance with the requirements of IEC 60079-17, IEC 60079-19 and any relevant additional national codes of practice.

Check regularly if the valve operates perfectly, by switching the valve at least once in 6 months or in 500.000 switching cycles, and ensure the appropriate air clearness level. In case of inappropriate operation, please contact HAFNER Pneumatika Kft.

Information about troubleshooting:

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. The versions "TS" are equipped with a thermal protection (cut-off) sensor. In case of a thermal cut-off, please wait until the solenoid cools under 60 °C, to start again the solenoid system. If it still doesn't work, please contact HAFNER Pneumatika Kft.

Halászi, 13.12.2021

Gergely Ujváry
General Manager