

Instruction Manual
Probes VA40 Z0 for explosive atmospheres



Apparatus

Vortex flow sensors VA40



These are intrinsically safe sensors for measuring the flow velocity of gases and designed for use in areas in which an explosive gas atmosphere is present continuously, or is present for long periods or frequently.

Probes VA40 with fixed flange or probe guide pieces



1. Safety Precautions

Please read this Instruction Manual carefully before initial operation!
Non-compliance can cause an explosion!

Permissible ambient and medium temperature ranges depending on the selected temperature class:

Equipment as apparatus of category 1/2G

Class	Media temperature (probe)	Ambient temperature (electronics)
T6	-20 ... +60 °C	-25 ... +40 °C
T5	-20 ... +60 °C	-25 ... +55 °C
T4	-20 ... +60 °C	-25 ... +90 °C
T3	-20 ... +60 °C	-25 ... +100 °C

Equipment as apparatus of category 2G

Class	Media temperature (probe)	Ambient temperature (electronics)
T6	-40 ... +80 °C	-25 ... +40 °C
T5	-40 ... +95 °C	-25 ... +55 °C
T4	-40 ... +130 °C	-25 ... +90 °C
T3	-40 ... +180 °C	-25 ... +100 °C
T2	-40 ... +295 °C	-25 ... +100 °C

Equipment as apparatus of category 1/2D resp. 2D

Class	Media temperature (probe)	Ambient temperature (electronics)
T _x °C	-40 ... +295 °C	-25 ... +100 °C

x = maximum value of the media temperature resp. ambient temperature, since self-heating needs not to be considered.

Maximum ambient and media temperature see also type plate and corresponding technical documents.

The gas container for the medium is to be insulated in such a way as to ensure that the electronics housing of the apparatus does not take on temperatures exceeding the above mentioned maximum ambient temperature for the respective temperature class, taking radiant and convective heat into account.

VA40 sensors for applications in explosive atmospheres may be used only in areas in which the gas temperature, ambient temperature and maximal permissible overpressure of 3 bar/300 kPa, as marked on the type plate, are not exceeded.

Sensors for applications in pressurized pipelines are to be inserted or retracted in depressurized conditions only, unless a probe guide piece with chain guard is being used. Non-observance can result in serious harm to personnel.

VA40 for explosive atmospheres may be connected to auxiliary electrical equipment with intrinsically safe isolation/supply unit only, so that the ratings in 2.1 are not exceeded.

2. Technical Data

EC type examination certificate: **IBExU 03 ATEX 1065 X**

Marking



Explosion protection: **Ex ia IIC T6 Ga/Gb**

Marking



Explosion protection: **Ex ia IIIC TX Da/Db**

X: There are certain special factors to be observed for applications in explosive atmospheres (see under 1)

2.1 Elektrical Data

Operation range concerning safety specifications:

$U_i \leq 11 \text{ V}$, $I_i \leq 40 \text{ mA}$, $P_i \leq 224 \text{ mW}$



3. Installation

The current European Specifications for Assembly, the recognised standards of good practice and this Instruction Manual apply.

Cable glands with M16 thread for cables with an exterior diameter of 5 ... 10 mm are used. The cable gland is to be tightened with a torque of 4 Nm.

The terminals are for wires with a cross-section of 0.5 ... 2.5 mm², AWG 20 to 16. Wire end sleeves must be used. Bare wires must not be visible after installation. The connection cables used must be usable for the temperature range of -25 ... +80 °C.

Refer to the currently valid regulations to ensure localized potential equalization. A protective ground terminal on the terminal box of the apparatus serves this purpose.

The earth terminal is designed for cross-sections of 1.5 ... 10 mm². Use a cable lug. The torque for fixture to the earth terminal must amount to 2 ... 3 Nm.



4. Cleaning / Maintenance

Sensors should be cleaned at regular intervals (see User Information VA Probes).

Any covering of dust on the electronic housing may not exceed 5 mm.

Any other maintenance or repair work is to be carried out solely by Höntzsch GmbH & Co. KG.

Declaration of conformity, Declaration of incorporation

We, Höntzsch GmbH & Co. KG
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bearing sole responsibility, hereby declare that the product

Flow measuring equipment

VA40 Z0, VA Di Z0

with EC type examination certificate **IBExU 03 ATEX 1065 X**

referred to by this declaration is in conformity with the following standards or normative documents:

Provisions of the directive	No. and date of issue of the standards
2014/34/EU: Equipment and protective systems for use in potentially explosive atmospheres	EN 60079-0: 2018 EN 60079-11: 2012 EN 60079-26: 2015
2014/30/EU: Electromagnetic compatibility	EN 61000-6-4: 2007 + A1: 2011 EN 61000-6-2: 2006 + Corrigendum 1: 2011
2014/68/EU: Pressure equipment directive	

One or more of the standards referred to in the EC type examination certificate have been replaced by new versions. We declare that we are also in agreement with these new versions.



Waiblingen, 25.06.2021

Jürgen Lempp / Geschäftsführer

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Subject to alteration