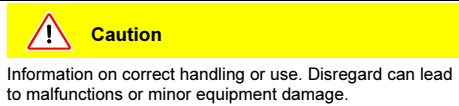
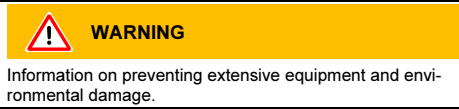
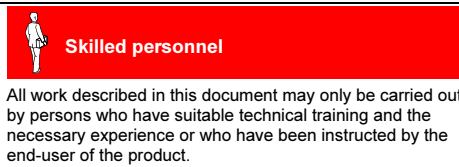


Symbols Used

Personnel Qualifications

General Safety Instructions

- Adhere to the applicable regulations and take the necessary precautions for the process media used. Consider possible reactions between the materials (→ "Technical Data") and the process media. Consider possible reactions of the process media due to the heat generated by the product.
- Adhere to the applicable regulations and take the necessary precautions for all work you are going to do and consider the safety instructions in this document.
- Before beginning to work, find out whether any vacuum components are contaminated. Adhere to the relevant regulations and take the necessary precautions when handling contaminated parts.

Communicate the safety instructions to all other users.

Liability and Warranty

INFICON assumes no liability and the warranty becomes null and void if the end-user or third parties

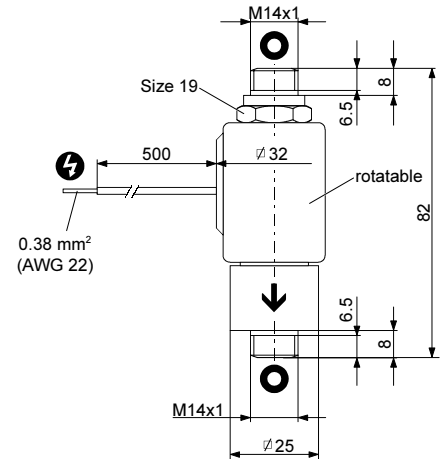
- disregard the information in this document
- use the product in a non-conforming manner
- make any kind of interventions (modifications, alterations etc.) on the product
- use the product with accessories not listed in the corresponding product documentation.

The end-user assumes the responsibility in conjunction with the process media used.

Technical Data

Version	normally open
Vacuum connection	ø5 mm / M14x1
Vacuum connection (accessories)	<ul style="list-style-type: none"> • Flange fitting DN 10 ISO-KF • Tube connection OD ¼" • Tube connection OD 6 mm
Nominal voltage	24 VDC ±10%
Nominal power	10 W
Duty cycle	100% (i.e. continuous duty possible)
Type of protection	IP 65 according to DIN 40 050
Conductance for air	
Molecular flow	0.2 l/s
Laminar flow	2 l/s
Mounting orientation	any
Switching frequency max.	300 / min ¹⁾
Cycles to first overhaul	≈2,000,000 ²⁾
Tightness	1×10 ⁻⁹ mbar l/s
Pressure range	1×10 ⁻⁸ mbar ... 10 bar (absolute)
Pressure difference Δp	
In closing direction	4 bar
In opening direction	2 bar
Opens to a pressure difference Δp of	4 bar
Closing time	30 ms ¹⁾
Opening time	10 ms ¹⁾
Temperatures	
Ambiance	5 ³⁾ ... 40 °C
Heat generation	60 °C (after 1¼ hours on continuous duty)
Bakeout	120 °C (with idle coil) 150 °C (without coil)
Materials	
Housing	stainless steel 1.4301
Actuator	stainless steel 1.4105
Seals	FPM
Weight	0.3 kg

- 1) At a pressure difference Δp = 0.
- 2) Under clean operating conditions.
- 3) -15 °C, if the ambiance is free of condensable gases.

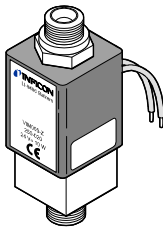
Dimensions [mm]


- Recommended flow direction
- Electrical connection
- Protective lid

Inline Valve

electromagnetically actuated normally open

VIM005-Z

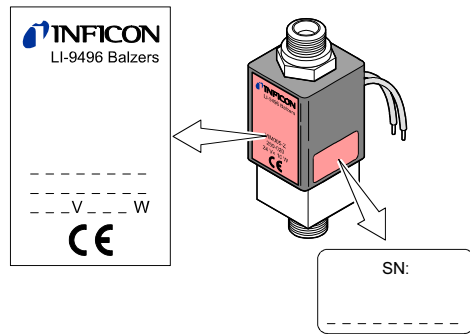


Instruction Sheet
Incl. Declaration of Conformity

sima12e1 (0202)

Product Identification

In all communications with INFICON, please specify the information on the product nameplate. For convenient reference copy that information into the space provided below.


Validity

This document applies to products with part number 250-020. The part number can be taken from the product nameplate.

We reserve the right to make technical changes without prior notice.

If not indicated otherwise in the illustrations, the dimensions are in mm.

Intended Use

The VIM005-Z is predominantly used in fast-cycling vacuum systems, e.g. for gas analysis and coating processes.

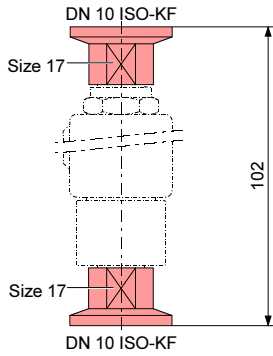
Functional Principle

The VIM005-Z is closed by the solenoid coil and opened by the prestressed pressure spring.

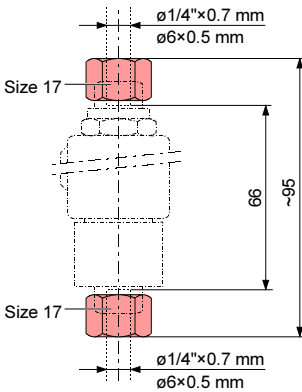
It will open, or remain open, on power loss.

Space requirements with accessories (part numbers of accessories → "Installation")

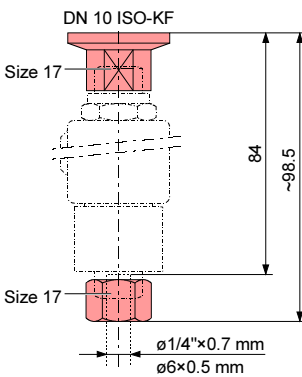
Flange fittings



Tube connections



Flange fitting and tube connection



Installation

Vacuum Connection

Caution

Caution: vacuum component
Dirt and damages impair the function of the vacuum component.
When handling vacuum components, take appropriate measures to ensure cleanliness and prevent damages.

Caution

Caution: dirt sensitive area
Touching the product or parts thereof with bare hands increases the desorption rate.
Always wear clean, lint-free gloves and use clean tools when working in this area.

Remove the protective lids and mount the valve to the vacuum system using an accessory.

Caution

Caution: tightening torque applied to connection nut
If a torque >3 Nm is applied to the connection nut, the solenoid coil is destroyed.
Apply a torque ≤3 Nm to the connection nut and hold either the connection nut or the valve housing stationary while tightening the vacuum connection.

Hold the connection nut stationary.

Hold the housing stationary.

Accessories (1 piece per part number)

- Tube connection OD 6 mm $\phi 6 \times 0.5$ mm Part No. 250-086
- Tube connection OD 1/4" $\phi 1/4 \times 0.7$ mm Part No. 250-085
- Flange fitting DN 10 ISO-KF Part No. 250-080
- Flange fitting DN 10 ISO-KF Part No. 250-080
- Tube connection OD 1/4" $\phi 1/4 \times 0.7$ mm Part No. 250-085
- Tube connection OD 6 mm $\phi 6 \times 0.5$ mm Part No. 250-086

Keep the protective lid

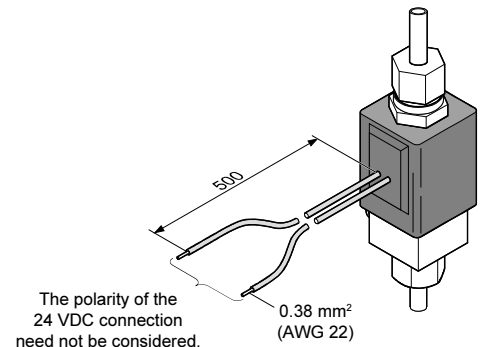
Electrical Connection

The electrical connection is established via the two cable strands. Adhere to the local regulations with regard to the installation.

Caution

Caution: switching of inductive loads (solenoid coil)
Inductive loads may considerably reduce the life of or even destroy contacts.
Preferably a clamping diode should be connected in parallel to the solenoid coil. The polarity should be chosen in such a way that the diode blocks when the normal operating voltage is applied.

Before connecting or disconnecting the product, turn off the control system.



See separate document for installation of the accessories.



Operation

The product is ready for operation as soon as it has been installed.

The VIM005-Z will open, or remain open, on power loss.

STOP DANGER



Caution: hot surface
Touching the hot surface (>55 °C) can cause burns.
Wear protective gloves.

Pressure difference Δp in closing direction

Caution

Caution: pressure difference
At $\Delta p > 4$ bar the O-ring of the valve plate can get damaged.
Avoid pressure differences $\Delta p > 4$ bar.

Pressure difference Δp in opening direction

Caution

Caution: pressure difference
At $\Delta p > 2$ bar the valve is opened.
Avoid pressure differences $\Delta p > 2$ bar.

Opening to a pressure difference Δp

Caution

Caution: Pressure difference
At $\Delta p > 4$ bar the valve cannot open.
Avoid pressure differences $\Delta p > 4$ bar.

Deinstallation

STOP DANGER



Caution: contaminated parts
Contaminated parts can be detrimental to health and environment.
Before beginning to work, find out whether any parts are contaminated. Adhere to the relevant regulations and take the necessary precautions when handling contaminated parts.

Caution



Caution: vacuum component
Dirt and damages impair the function of the vacuum component.
When handling vacuum components, take appropriate measures to ensure cleanliness and prevent damages.

Caution



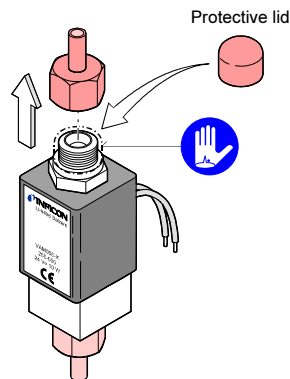
Caution: dirt sensitive area
Touching the product or parts thereof with bare hands increases the desorption rate.
Always wear clean, lint-free gloves and use clean tools when working in this area.

Preconditions

- Vacuum system vented
- Control system disconnected from the power source
- Valve cooled down to <55 °C

Procedure

- 1 Disconnect the product from the power source.
- 2 Detach the vacuum connections and install the protective lids.



Maintenance/Repair

→ Operating Manual sina12e1. It can be downloaded from our website.



Failures due to contamination or wear and tear are not covered by the warranty.

Returning the Product

WARNING



Caution: forwarding contaminated products
Contaminated products (e.g. radioactive, toxic, caustic or microbiological hazard) can be detrimental to health and environment.
Products returned to INFICON should preferably be free of harmful substances. Adhere to the forwarding regulations of all involved countries and forwarding companies and enclose a duly completed declaration of contamination.

Products that are not clearly declared as "free of harmful substances" are decontaminated at the expense of the customer. Products not accompanied by a duly completed declaration of contamination are returned to the sender at his own expense.

Disposal

STOP DANGER



Caution: contaminated parts
Contaminated parts can be detrimental to health and environment.
Before beginning to work, find out whether any parts are contaminated. Adhere to the relevant regulations and take the necessary precautions when handling contaminated parts.

WARNING



Caution: substances detrimental to the environment
Products or parts thereof (mechanical and electric components, operating fluids etc.) can be detrimental to the environment.
Dispose of such substances in accordance with the relevant local regulations.

Separating the components

After disassembling the product, separate its components according to the following criteria:

- Contaminated components
Contaminated components (radioactive, toxic, caustic, or biological hazard etc.) must be decontaminated in accordance with the relevant national regulations, separated according to their materials, and disposed of.
- Other components
Such components must be separated according to their materials and recycled.

