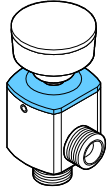


Angle Valve

manually operated
VAH005-X

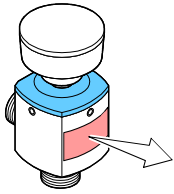


Instruction Sheet
Incl. Manufacturer's Declaration

sima11e1 (0108)

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.



INFICON AG, LI-9496 Balzers
Model: -----
PN: -----
SN: -----

Validity

This document applies to products with part number 250-070. The part number (PN) can be taken from the product nameplate.

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

All dimensions in mm.

Intended Use

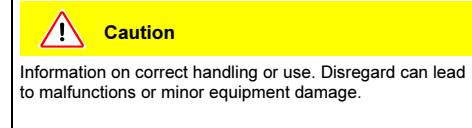
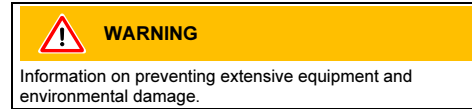
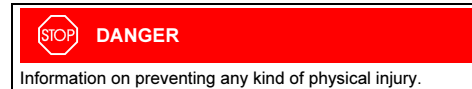
The angle valve is universally used in vacuum systems.

Functional Principle

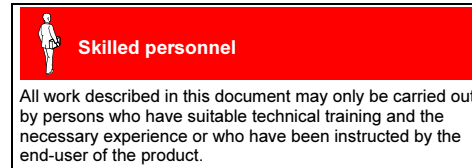
The angle valve is opened and closed by turning the rotary knob. The longitudinal movements of the valve plate are produced by the spindle drive.

Safety

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 (see "Technical Data") and the process media.
- 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.

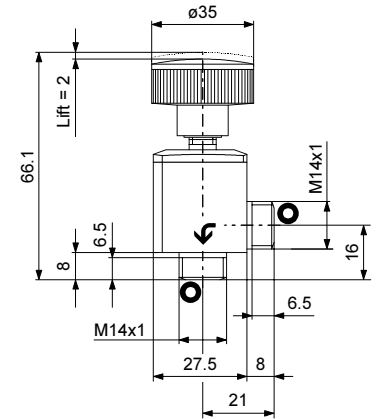
The end-user assumes the responsibility in conjunction with the process media used.

Technical Data

Vacuum connection	ø5 mm / M14x1
Vacuum connection (accessories)	<ul style="list-style-type: none"> flange fitting DN 10 ISO-KF pipe connection OD ¼" pipe connection OD 6 mm
Conductance for air	0.4 l/s
Molecular flow	4 l/s
Laminar flow	
Mounting orientation	any
Tightness	1×10 ⁻⁹ mbar l/s
Pressure range	1×10 ⁻⁸ mbar ... 5 bar (absolute)
Pressure difference Δp	
In closing direction	4 bar
In opening direction	4 bar
Opens against Δp	4 bar
Temperatures	
Ambiance	5 °C ¹⁾ ... 70 °C
Bakeout	150 °C (actuator 70 °C)
Materials	
Housing	stainless steel 1.4301
Bellows	stainless steel 1.4301
Actuator	aluminum and plastic
Seals	FPM
Weight	0.15 kg

¹⁾ -15 °C, if the ambience is free of condensable gases.

Dimensions [mm]



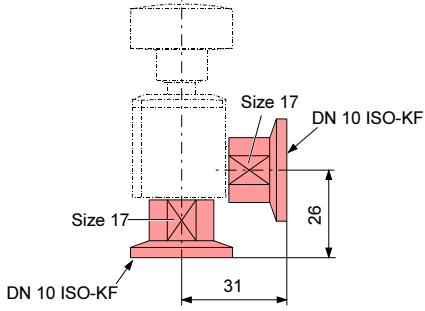
Recommended flow direction



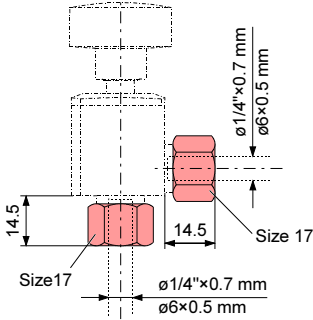
Protective lid

Space requirements for installation with accessories
(See "Installation" for part numbers of accessories.)

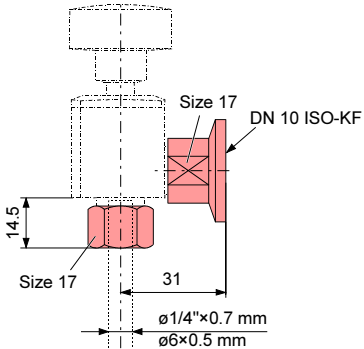
Flange fittings



Pipe connections



Flange fitting and pipe connection



Installation

Vacuum Connection

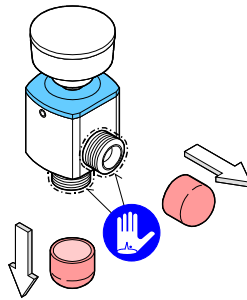
Caution

! 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

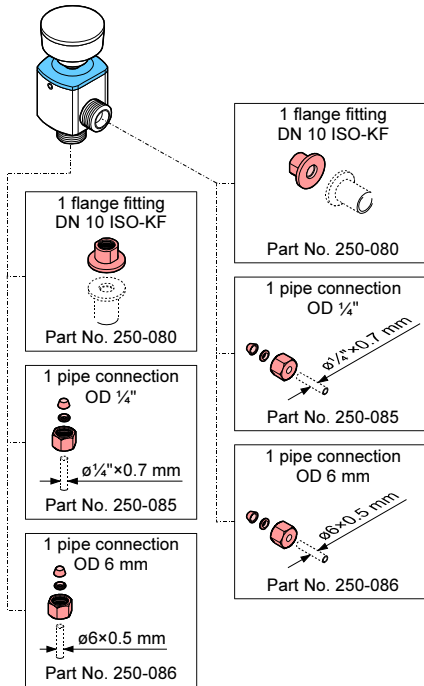
! Caution: dirt sensitive area
Touching the product or parts thereof with one's bare hands increases the desorption rate.
Always wear clean, lint-free gloves and use clean tools when working in this area.

1 Remove the protective lids.



! Keep the protective lids.

2 Establish the vacuum connections by means of the accessories.



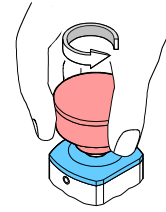
Installation of the accessories according to the instructions supplied with the parts.

Operation

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

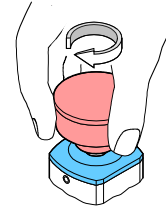
The angle valve is slightly opened when delivered ex works.

Opening the valve



The maximum flow is reached by turning the rotary knob $\approx 1\frac{1}{2}$ times from the closed position.

Closing the valve



The closing position is reached as soon as the closing resistance is decreased.
The seal of the valve is pressed against the valve seat by a spring.

Pressure difference Δp in closing direction

Caution

! Caution: pressure difference
With $\Delta p > 4$ bar the valve may be damaged.
Avoid pressure differences $\Delta p > 4$ bar.

Pressure difference Δp in opening direction

Caution

! Caution: pressure difference
With $\Delta p > 4$ bar the valve is opened.
Avoid pressure differences $\Delta p > 4$ bar.

Opens against a pressure difference Δp

Caution

! Caution: pressure difference
With $\Delta p > 4$ bar the valve may be damaged.
Avoid pressure differences $\Delta p > 4$ bar.



Deinstallation

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

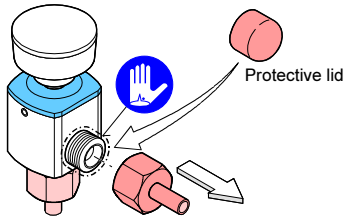
Touching the product or parts thereof with one's bare hands increases the desorption rate.

Always wear clean, lint-free gloves and use clean tools when working in this area.



The vacuum system must be vented and the valve cooled down to $<50\text{ }^{\circ}\text{C}$.

Deinstall the vacuum connections and place the protective lids.



Maintenance, Repair

See Operating Manual sina11e1, which can be downloaded from our website.

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

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.

Declaration of Contamination

The service, repair, and/or disposal of vacuum equipment and components will only be carried out if a correctly completed declaration has been submitted. Non-completion will result in delay.
This declaration may only be completed (in block letters) and signed by authorized and qualified staff.

1 Description of product Type _____ Part number _____ Serial number _____	2 Reason for return _____ _____ _____																									
3 Operating fluid(s) used (Must be drained before shipping.) _____ _____																										
4 Process related contamination of product: <table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">toxic</td> <td style="width: 10%;">no <input type="checkbox"/> 1)</td> <td style="width: 10%;">yes <input type="checkbox"/></td> <td style="width: 10%;">yes <input type="checkbox"/></td> <td rowspan="6" style="text-align: center; vertical-align: middle;"> 2) Products thus contaminated will not be accepted without written evidence of decontamination! </td> </tr> <tr> <td>caustic</td> <td>no <input type="checkbox"/> 1)</td> <td>yes <input type="checkbox"/></td> <td>yes <input type="checkbox"/></td> </tr> <tr> <td>biological hazard</td> <td>no <input type="checkbox"/></td> <td>yes <input type="checkbox"/> 2)</td> <td>yes <input type="checkbox"/> 2)</td> </tr> <tr> <td>explosive</td> <td>no <input type="checkbox"/></td> <td>yes <input type="checkbox"/> 2)</td> <td>yes <input type="checkbox"/> 2)</td> </tr> <tr> <td>radioactive</td> <td>no <input type="checkbox"/></td> <td>yes <input type="checkbox"/> 2)</td> <td>yes <input type="checkbox"/> 2)</td> </tr> <tr> <td>other harmful substances</td> <td>no <input type="checkbox"/> 1)</td> <td>yes <input type="checkbox"/></td> <td>yes <input type="checkbox"/></td> </tr> </table>		toxic	no <input type="checkbox"/> 1)	yes <input type="checkbox"/>	yes <input type="checkbox"/>	 2) Products thus contaminated will not be accepted without written evidence of decontamination!	caustic	no <input type="checkbox"/> 1)	yes <input type="checkbox"/>	yes <input type="checkbox"/>	biological hazard	no <input type="checkbox"/>	yes <input type="checkbox"/> 2)	yes <input type="checkbox"/> 2)	explosive	no <input type="checkbox"/>	yes <input type="checkbox"/> 2)	yes <input type="checkbox"/> 2)	radioactive	no <input type="checkbox"/>	yes <input type="checkbox"/> 2)	yes <input type="checkbox"/> 2)	other harmful substances	no <input type="checkbox"/> 1)	yes <input type="checkbox"/>	yes <input type="checkbox"/>
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other harmful substances	no <input type="checkbox"/> 1)	yes <input type="checkbox"/>	yes <input type="checkbox"/>																							
The product is free of any substances which are damaging to health yes <input type="checkbox"/>																										
1) or not containing any amount of hazardous residues that exceed the permissible exposure limits																										
5 Harmful substances, gases and/or by-products Please list all substances, gases, and by-products which the product may have come into contact with: <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <thead> <tr> <th style="width: 25%;">Trade/product name</th> <th style="width: 25%;">Chemical name (or symbol)</th> <th style="width: 25%;">Precautions associated with substance</th> <th style="width: 25%;">Action if human contact</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>		Trade/product name	Chemical name (or symbol)	Precautions associated with substance	Action if human contact																					
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6 Legally binding declaration: I/we hereby declare that the information on this form is complete and accurate and that I/we will assume any further costs that may arise. The contaminated product will be dispatched in accordance with the applicable regulations. <table style="width: 100%; border: none; margin-top: 5px;"> <tr> <td style="width: 50%;">Organization/company _____</td> <td style="width: 50%;">Post code, place _____</td> </tr> <tr> <td>Address _____</td> <td>Phone _____</td> </tr> <tr> <td>Phone _____</td> <td>Fax _____</td> </tr> <tr> <td>Email _____</td> <td> </td> </tr> <tr> <td>Name _____</td> <td> </td> </tr> </table> <table style="width: 100%; border: none; margin-top: 10px;"> <tr> <td style="width: 50%;">Date and legally binding signature _____</td> <td style="width: 50%;">Company stamp _____</td> </tr> </table>		Organization/company _____	Post code, place _____	Address _____	Phone _____	Phone _____	Fax _____	Email _____		Name _____		Date and legally binding signature _____	Company stamp _____													
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This form can be downloaded from our website.

Copies: Original for addressee - 1 copy for accompanying documents - 1 copy for file of sender

Manufacturer's Declaration

as defined by the Directive relating to machinery 98/37/EC, Appendix IIb

We, Inficon, hereby declare that putting the incomplete equipment mentioned below into operation is not permitted until evidence is given that the system into which that incomplete equipment shall be installed is in accordance with the provisions of the EC Directive relating to machinery.

Angle Valve

manually operated
VAH005-X

Part number
250-070

Standards

Harmonized and international/national standards and specifications:

- EN 292-1/-2 (Safety of machinery)
- EN 294 (Safety distances to prevent danger zones being reached by the upper limbs)

Signatures

INFICON AG, Balzers

12 July 2001

Hans-Christoph Gehlhar
Product Manager

12 July 2001

Dr. Georg Sele
Technical Support Manager
Quality Representative



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