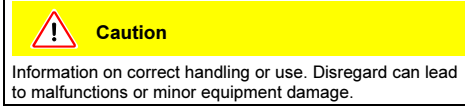
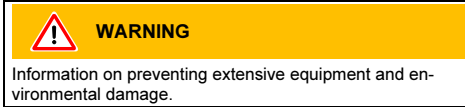
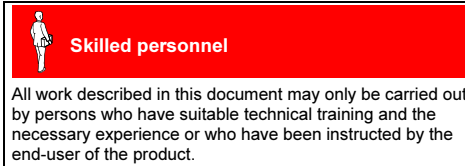


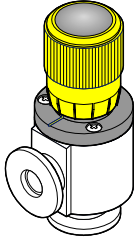
Symbols Used

Personnel Qualifications

Technical Data

Vacuum connection	DN 10 ISO-KF
Conductance for air	
At 1 mbar	≤1.5 l/s
At 10 ⁻² mbar	≤0.65 l/s
Mounting orientation	any
Cycles to first maintenance	≈200'000 cycles ¹⁾
Gas flow	40 ... 1700 mbar l/s
Tightness	1×10 ⁻⁸ mbar l/s
Pressure range	1×10 ⁻⁷ mbar ... 4 bar (absolute)
Pressure difference Δp	
In closing direction	3 bar
In opening direction	4 bar
Opens against Δp	3 bar
Number of rotations through the range of movement	≈3.5
Temperatures	
Ambiance	5 ²⁾ ... 40 °C
Bakeout (housing)	100 °C
Materials	
Housing	aluminum
Valve plate	stainless steel 1.4301
Seals	FPM
Weight	0.2 kg

¹⁾ Under clean operating conditions.
²⁾ -15 °C, if the ambiance is free of condensable gases.

Coarse Dosing Valve

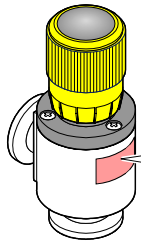
manually actuated
VDH010-A



Operating Manual
Incl. Manufacturer's Declaration
sina68e1 (0103)

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

Typ: -----
No: -----
F-No: -----


Validity

This document applies to products with part number 250-520. The part number (No.) 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 coarse dosing valve VDH010-A is used

- for admitting a reproducible flow of gas into a vacuum system
- for slow venting of a vacuum system.

Functional Principle

A spindle drive converts the rotation of the rotary knob into a linear movement for opening and closing the valve.

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.
- 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.

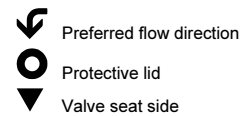
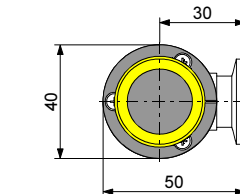
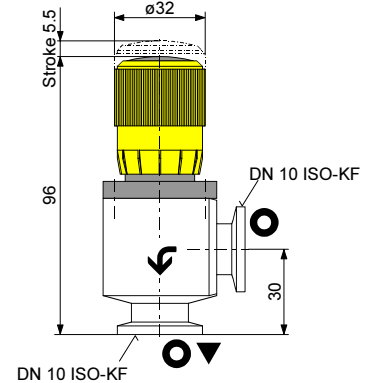
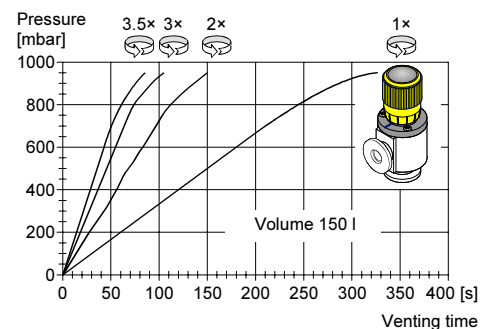
Communicate the safety instructions to all other users.

Liability and Warranty

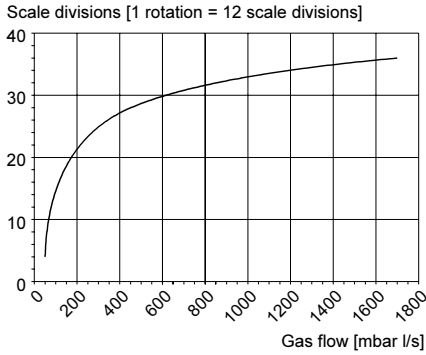
Inficon assumes no liability and the warranty becomes null and void if the end-user or third parties

- 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.

Dimensions [mm]

Venting time


Gas flow (average ³⁾)



³⁾ Due to mechanical tolerances, variations of up to a factor of 2 are possible.

Installation

STOP DANGER

Caution: overpressure in the vacuum system >1 bar

Injury caused by released parts and harm caused by escaping process gases can result if clamps are opened while the vacuum system is pressurized.

Do not open any clamps while the vacuum system is pressurized. Use the type clamps which are suited to overpressure.

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.

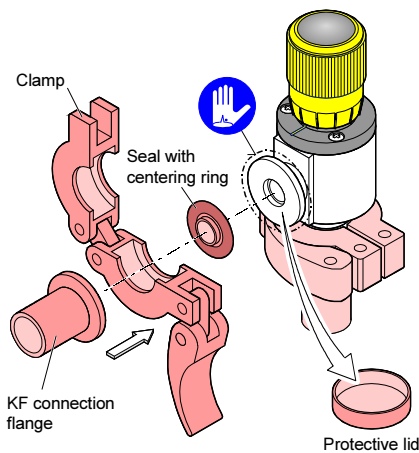
Caution

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.

Remove protective caps and make vacuum connection.



Keep the protective lids.

Operation

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

Factory-set valve position: slightly opened.

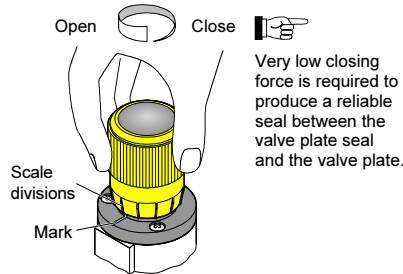
Caution

Caution: high sealing pressure

A too high pressure when closing may damage the product.

Do not use unnecessarily high sealing pressure.

The valve position can be read on a scale with 12 divisions per rotation.



Very low closing force is required to produce a reliable seal between the valve plate seal and the valve plate.

Pressure difference Δp in closing direction

Caution

Caution: pressure difference

With $\Delta p > 3$ bar the valve may start leaking.

Avoid pressure differences $\Delta p > 3$ bar.

Pressure difference Δp in opening direction

Caution

Caution: pressure difference

With $\Delta p > 4$ bar the valve plate may lift.

Avoid pressure differences $\Delta p > 4$ bar.

Opens against a pressure difference Δp

Caution

Caution: pressure difference

With $\Delta p > 3$ bar the valve may start leaking.

Avoid pressure differences $\Delta p > 3$ 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

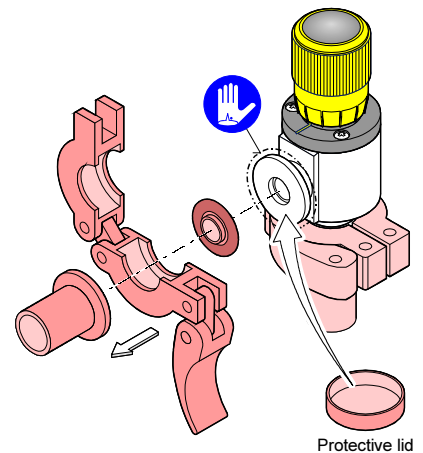
Caution: dirt sensitive area

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

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

Vacuum system is vented.

Remove valve from vacuum system and place the protective lids.



Maintenance / Repair

Under clean operating conditions, the product requires no maintenance during the rated cycle life.

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.

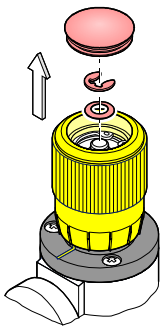
Caution



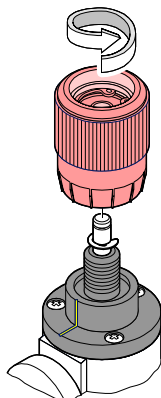
Caution: dirt sensitive area
Touching the product or parts thereof with one's bare hands increases the desorption rate. Always wear clean, lint-free gloves and use clean tools when working in this area.

The valve has been removed from the vacuum system (→ "Deinstallation").

1 Remove cap and circlip

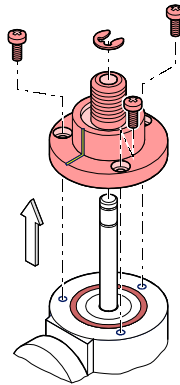


2 Remove rotary knob

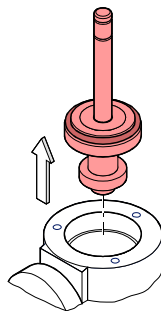


The sliding fit makes it more difficult to remove the rotary knob.

3 Remove flange cover

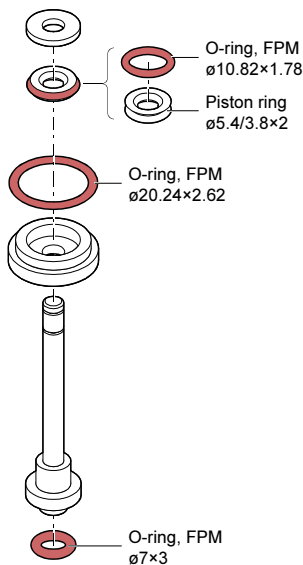


4 Remove the valve plate



5 Disassemble valve plate

When reassembling the product, be careful to insert the O-rings level into the grooves without twisting them.



6 Clean valve

STOP DANGER



Caution: cleaning agents
Cleaning agents can be detrimental to health and environment. Adhere to the relevant regulations and take the necessary precautions when handling and disposing of cleaning agents. Consider possible reactions with the product materials (→ "Technical Data").

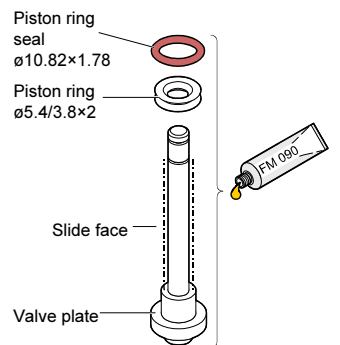
- Carefully clean the parts with a grease solving, non-scouring cleaner.
- After cleaning the parts should preferably be rinsed with alcohol and subsequently heated to $\approx 50^\circ \text{C}$ in an oven or with an industrial blower.
- Carefully clean the sealing surfaces with a lint-free cloth soaked with alcohol. Allow them to dry.

7 Proceed in reverse order to reassemble the valve

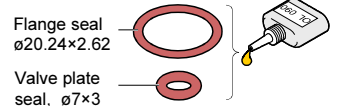
Vorsicht



Before reassembling the valve, slightly lubricate the slide face, piston ring and piston ring seal with high vacuum lubricant (FM 090) ...



... and wipe the flange and valve plate seals with a lint-free cloth moistened with high vacuum oil (OL 090).



Accessories

		Ordering number
High vacuum lubricant	FM 090, 30 g	214-239
High vacuum oil	OL 090, 10 ml	214-240

Spare Parts

When ordering spare parts, always indicate:

- all information on the product nameplate
- description and ordering number according to the spare parts list

	Ordering number
Seal kit comprising 1 O-ring, FPM60, ø7×3 1 O-ring, FPM75, ø10.82×1.78 1 O-ring, FPM75, ø20.24×2.62 1 piston ring, KI 6, ø5.4/3.8×2	215-207

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 _____
 Article Number _____
 Serial Number _____
- 2 Reason for return**

- 3 Operating fluid(s) used**
 (Must be drained before shipping.)

- 4 Process related contamination of product:**

toxic	no <input type="checkbox"/>	1) yes <input type="checkbox"/>	yes <input type="checkbox"/>	
corrosive	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"/>	
explosive	no <input type="checkbox"/>	yes <input type="checkbox"/>	2) yes <input type="checkbox"/>	
radioactive	no <input type="checkbox"/>	yes <input type="checkbox"/>	2) yes <input type="checkbox"/>	
other harmful substances	no <input type="checkbox"/>	1) yes <input type="checkbox"/>	yes <input type="checkbox"/>	

1) or not containing any amount of hazardous residues that exceed the permissible exposure limits

2) Products thus contaminated will not be accepted without written evidence of decontamination!
- The product is free of any substances which are damaging to health

yes
- 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:

Trade/product name manufacturer	Chemical name (or symbol)

Precautions associated with substance	Action if human contact
- 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.

Organization/company _____

Address _____

Post code, place _____

Phone _____ Fax _____

Email _____

Name _____

Company stamp _____

Date and legally binding signature _____

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.

Coarse Dosing Valve

manually actuated
VDH010-A

Part number
250-520

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
15 March 2001

Hans-Christoph Gehlhar
Product management

15 March 2001

Dr. Georg Sele
Technical Support Manager
Quality Representative



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