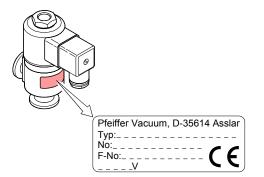






Product Identification

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



Validity

This document applies to products with the following part numbers:

(24 VDC) PF A23 201 PF A23 101 (24 VAC) (115 VAC) PF A23 401 PF A23 501 (230 VAC)

The part number (No) can be taken from the product name-

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

All dimensions in mm.

Intended Use

The electromagnetic angle valve can be used in the medium and high vacuum ranges as a shut-off or venting valve.

If the product is to be integrated in a vacuum system where toxic process gases are used or toxic gases arise during the process and where the overpressure can rise to >1 bar, take appropriate safety measures for educing the exhaust gases and dispose of them without polluting the environment.

Functional Principle

This angle valve is opened by a magnet screwed directly to the valve body and opened by the action of a prestressed

It closes automatically in the event of a power failure

Safety

Symbols Used



DANGER

Information on preventing any kind of physical injury.



WARNING

Information on preventing extensive equipment and environmental damage



Caution

Information on correct handling or use. Disregard can lead to malfunctions or minor equipment damage.

Personnel Qualifications



Skilled personnel

All work described in this document may only be carried out by persons who have suitable technical training and the necessary experience or who have been instructed by the end-user of the product.

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

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

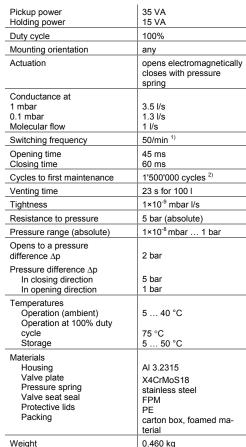
- disregard the information in this document
- use the product in a non-conforming manner
- make any kind of interventions (modifications, alterations etc.) on the product
- use the product with accessories not listed in the corresponding product documentation.

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

Failures due to contamination or wear and tear, as well as expendable parts (e.g. seals), are not covered by the warranty.

Technical Data

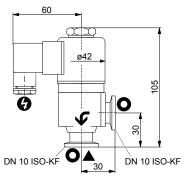
Part number	Nominal voltage
PF A23 201	24 VDC ±10%
PF A23 101	24 VAC ±10%
	50 60 Hz
PF A23 401	115 VAC ±10%,
	50 60 Hz
PF A23 501	230 VAC ±10%
	50 60 Hz
Vacuum connection	DN 10 ISO-KF
Electrical connection	cable socket



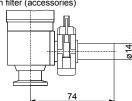
Weight

- With pressure difference $\Delta p = 0$.
- Cycles under clean operating conditions. If the valve is operated under harsh or dirty conditions, it should be cleaned / maintained before the specified service time to maintenance has been reached.

Dimensions [mm]



With filter (accessories)

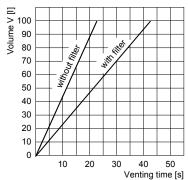


Power connection

Protective lid Valve seat side

Preferred flow direction

Venting as a function of the volume



Installation



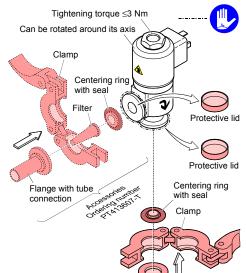
Caution



Caution: line voltage

Incorrect voltages can destroy the product.

The local line voltage ratings must correspond to the nominal voltage of the product (→ product nameplate). If they do not correspond, please contact the next Pfeiffer Vacuum service center otherwise.



Remove the protective lids and connect the product to the

ISO-KF-connection flange Preferred flow direction

vacuum system.



Keep the protective lids

Vacuum Connection



DANGER



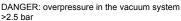
DANGER: overpressure in the vacuum system >1 bar

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 of clamps which are suited to overpressure.



DANGER

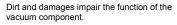


KF flange connections with elastomer seals (e.g. O-rings) cannot withstand such pressures. Process media can thus leak and possibly damage

Use O-rings provided with an outer centering



! Caution



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.

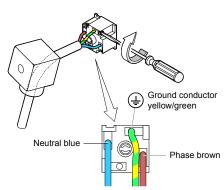


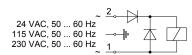
To prevent contamination of the vacuum system during venting, a filter (accessory) can be mounted.

Power Connection

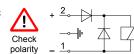


Make a cable according to the following diagram.





24 VDC





Connect cable.

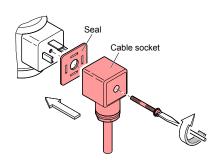


DANGER DANGER: protective ground Incorrectly grounded products can be ex-

tremely hazardous in the event of a fault. Use only a 3-conductor power cable with protective ground. The power connector may only be plugged into a socket with a protective ground. The protection must not be nullified by an extension cable without protective ground.



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



Operation

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

It will close, or remain closed, on power loss.



Wear protective gloves.

Deinstallation

Precondition: Vent the vacuum system and wait until the

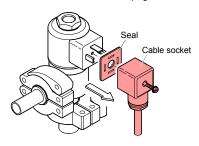
valve has cooled down to <55 °C.

Power Connection



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

Unlock the cable socket and unplug it.





Vacuum Connection



DANGER



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

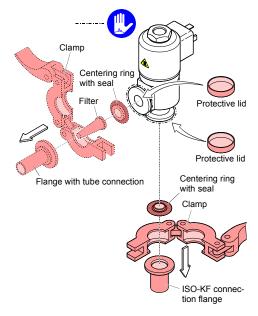


Caution: dirt sensitive area

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

Remove the valve from the vacuum system and put the protective lids in place.



Maintenance, Repair

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



Failures due to contamination or wear and tear, as well as expendable parts (e.g. seals), are not covered by the warranty



DANGER



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

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Caution

Caution: dirt sensitive area

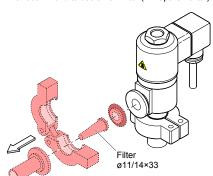
Touching the product or parts thereof with bare hands increases the desorption rate.

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

Precondition: Valve deinstalled

Replacing / cleaning the filter

We recommend to use a new filter (\rightarrow "Spare Parts").





DANGER

DANGER: cleaning agents

Cleaning agents can be detrimental to health and environment.

Adhere to the relevant regulations and take the necessary precautions when handling cleaning agents and disposing of them. Consider possible reactions with the product materials.

Clean the filter in an ultrasonic bath rinse it with alcohol and dry it with an industrial blower.

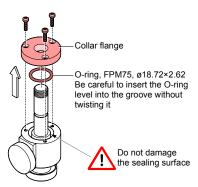
Cleaning the valve / replacing parts



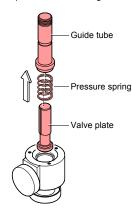
Remove the solenoid coil.



Remove the collar flange and seal.

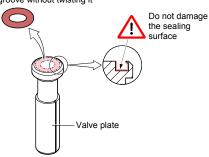


Remove the guide tube, pressure spring, and valve plate from the housing.



Remove the seal from the valve plate.

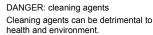
O-ring FPM60, ø7×3 Be careful to insert the O-ring level into the groove without twisting it



Clean the valve and replace its parts.



DANGER



Adhere to the relevant regulations and take the necessary precautions when handling cleaning agents and disposing of them. Consider possible reactions with the product materials.

- · Carefully clean the parts with a grease solving, nonscouring cleaner.
- · After cleaning, the parts should preferably be rinsed with alcohol and subsequently heated to ≈50 °C in an oven or with an industrial blower.
- Carefully clean the sealing surfaces with a lint-free cloth moistened with alcohol. Allow them to dry.
- Wipe the seals with a lint-free cloth slightly moistened with vacuum oil.



6 Proceed in reverse order to reassemble the valve.



After reassembly, a few switching cycles should be performed in order for the O-rings to perfectly adapt to the sealing surfaces. Take the necessary precautions for this procedure.

Accessories

	Ordering number
Filter kit, comprising	PT 413 607-T
1× Reducing centering ring DN 10-16 KF	
1× Filter, ø11/14x33	
1× Clamp DN 10-16 KF	
1× Flange DN 16 KF with tube connection	

Spare Parts

	Ordering number
Seal kit, comprising 1× O-ring, FPM 75, Ø18.72x2.62 1× O-ring, FPM 60, Ø7x3	PT 130 170-T
1× Filter, ø11/14x33	B 4161 210 4F

Storage



Caution



Caution: vacuum component Inappropriate storage leads to an increase of the desorption rate and/or may result in mechanical damage of the product.

Cover the vacuum ports of the product with protective lids or grease free aluminum foil. Do not exceed the admissible storage temperature range (\rightarrow "Technical Data").

Disposal



DANGER

DANGER: 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



WARNING: 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.

Returning the Product



WARNING



WARNING: forwarding contaminated products Contaminated products (e.g. radioactive, toxic, caustic or biological hazard) can be detrimental to health and environment.

Products returned to Pfeiffer Vacuum 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

Products not accompanied by a duly completed declaration of contamination are returned to the sender at his own expense.

Form under www.pfeiffer-vacuum.net