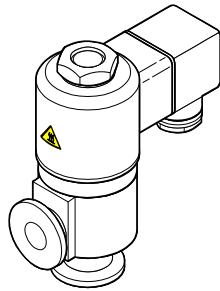




Venting valve

21320-KA64-....

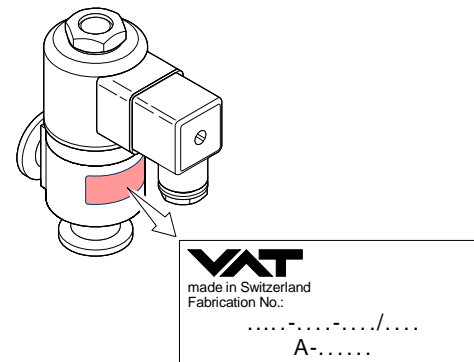


Instruction Sheet

601463EA (2013-04)

Product Identification

In all communications with VAT, 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 the following part numbers:

21320-KA64-000.	(24 VDC)
21320-KA64-ABJ.	(24 VAC)
21320-KA64-ABK.	(115 VAC)
21320-KA64-ABM.	(230 VAC)

The part number can be taken from the product nameplate.

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

All dimensions in mm.

Intended Use

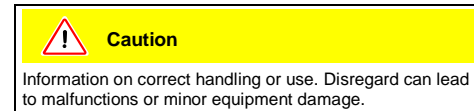
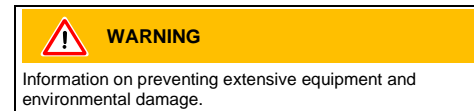
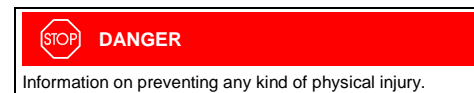
The electromagnetic angle valve can be used in the medium and high vacuum ranges as a shut-off or venting valve. If the product is to be integrated in a vacuum system where toxic process gases are used or toxic gases arise during the process and where the overpressure can rise to >1 bar, take appropriate safety measures for educating the exhaust gases and dispose of them without polluting the environment.

Functional Principle

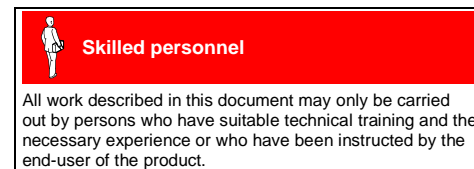
This angle valve is opened by a magnet screwed directly to the valve body and opened by the action of a prestressed spring. It closes automatically in the event of a power failure.

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 (→ 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

VAT 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.

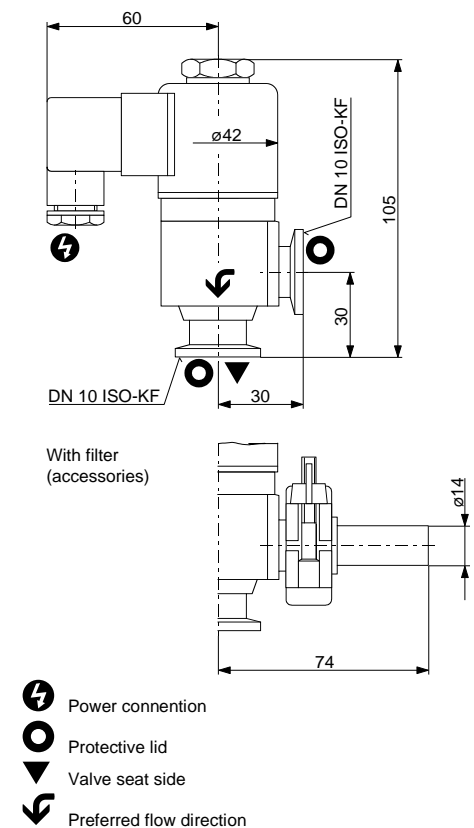
The end-user assumes the responsibility in conjunction with the process media used.

Technical Data

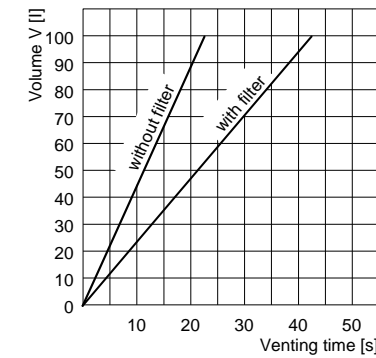
Part number	Nominal voltage
21320-KA64-000.	24 VDC ±10%
21320-KA64-ABJ.	24 VAC ±10% 50 ... 60 Hz
21320-KA64-ABK.	115 VAC ±10%, 50 ... 60 Hz
21320-KA64-ABM.	230 VAC ±10% 50 ... 60 Hz
Vacuum connection	DN 10 ISO-KF
Electrical connection	cable socket
Pickup power	35 VA
Holding power	15 VA

Duty cycle	100%
Mounting orientation	any
Actuation	opens electromagnetically closes with pressure spring
Conductance at 1 mbar 0.1 mbar Molecular flow	3.5 l/s 1.3 l/s 1 l/s
Switching frequency	50/min
Opening time	45 ms
Closing time	60 ms
Cycles to first maintenance	1'500'000 cycles
Venting time	23 s for 100 l
Tightness	1 × 10 ⁻⁹ mbar l/s
Pressure range	1 × 10 ⁻⁸ mbar ... 10 bar (absolute)
Opens to a pressure difference Δp	2 bar
Pressure difference Δp In closing direction In opening direction	10 bar 1 bar
Temperatures Operation (ambient) Operation at 100% duty cycle Storage	5 ... 40 °C 75 °C 5 ... 50 °C
Materials Housing Valve plate Pressure spring Valve seat seal Protective lids Packing	Al 3.2315 X4CrMoS18 stainless steel FPM PE carton box, foamed material
Weight	0.460 kg

Dimensions



Venting as a function of the volume



Installation

Preliminary Classification

Caution

Caution: Supply voltage
A wrong supply voltage may damage the product.
The supply voltage must match the nominal voltage (→ product nameplate). Please contact the next VAT service center otherwise.

Vacuum Connection

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.

DANGER

Caution: overpressure in the vacuum system >4 bar
KF flange connections with elastomer seals (e.g. O-rings) cannot withstand such pressures. Process media can thus leak and possibly damage your health.
Use O-rings provided with an outer centering ring.

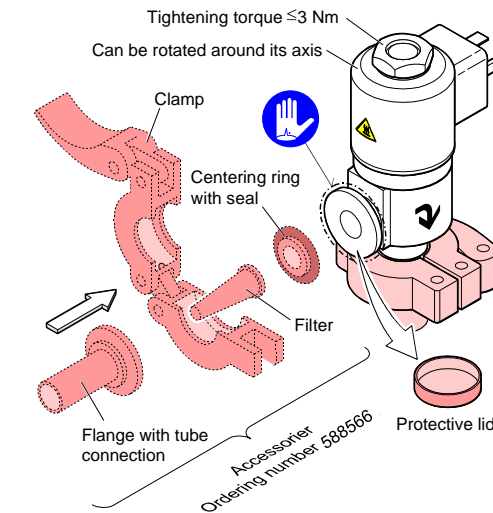
Caution

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.

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.

Remove the protective lid and install the product at the vacuum system.



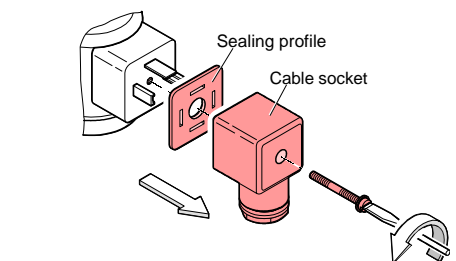
Preferred flow direction

Keep the protective lids.

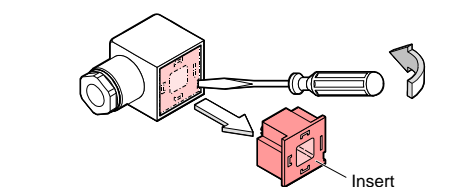
To prevent contamination of the vacuum system during venting, a filter (accessories) can be mounted.

Power Connection

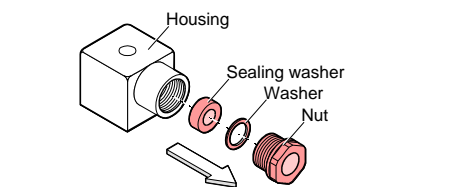
1 Unfasten the screw and unplug the cable socket.



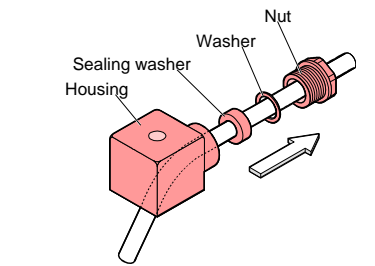
2 Remove the insert.



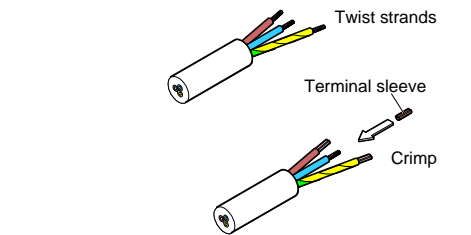
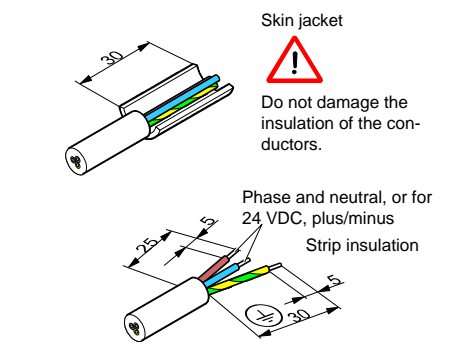
3 Unscrew the nut on the cable socket and remove the washer and the sealing profile.



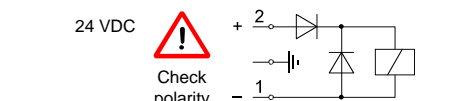
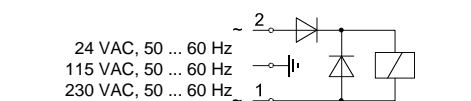
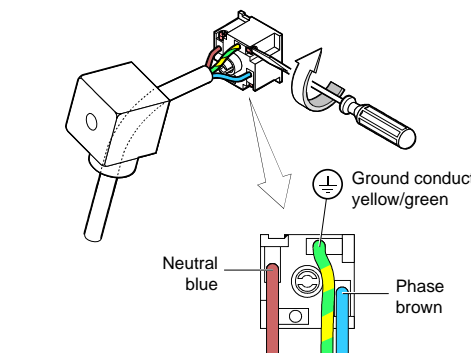
4 Slide the nut, washer, gasket and housing on the cable.



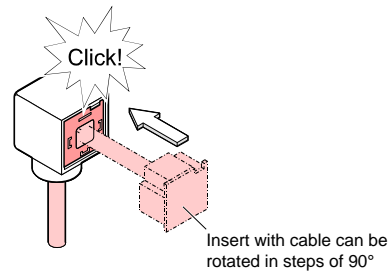
5 Prepare the cable.



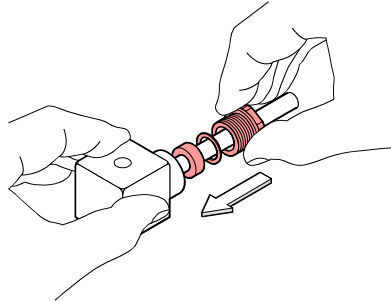
6 Connect the cable.



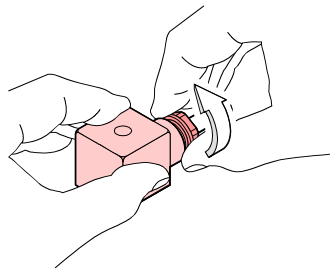
7 Push the insert in until it catches.



8 Mount the strain relief.



9 Tighten the strain relief.



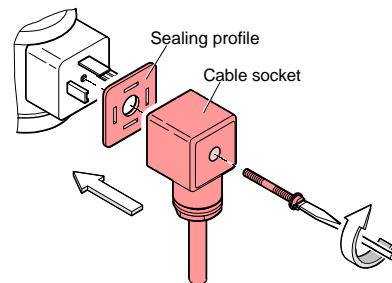
10 Connect cable.

STOP DANGER

Caution: protective ground
Incorrectly grounded products can be extremely 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 the product, turn off the control system.



Operation

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

It will close, or remain closed, 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 Δp

At Δp 10 bar the valve cannot be opened.
Avoid pressure differences $\Delta p > 2$ bar.

Pressure difference Δp in opening direction

Caution

Caution: pressure difference Δp

At $\Delta p > 1$ bar the valve is opened.
Avoid pressure differences $\Delta p > 1$ bar.

Opening against a pressure difference Δp

Caution

Caution: pressure difference Δp

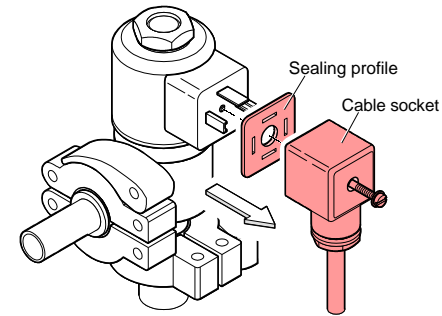
At $\Delta p > 2$ bar the valve cannot open.
Avoid pressure differences $\Delta p > 2$ bar.

Deinstallation

Electrical Connection

Before connecting the product, turn off the control system.

Unlock the cable socket and unplug it.



Vacuum Connection

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

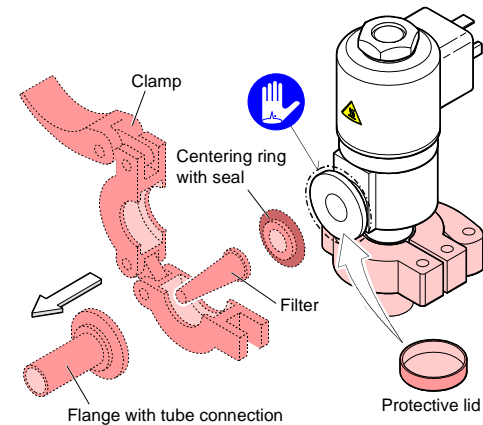
Caution: vacuum component
Dirt and damages impair the function of the vacuum component.
When handling vacuum components, take appropriate measures to ensure cleanliness and prevent damages.

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.

Vent the vacuum system and wait until the valve has cooled down to <55 °C.

Remove the small flange fittings and put the protective lid in place.



Maintenance, Repair

See Operating Manual No. 602162

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 (→ Technical Data).

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 VAT 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. The form can be downloaded from our website www.vatvalve.com.

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.