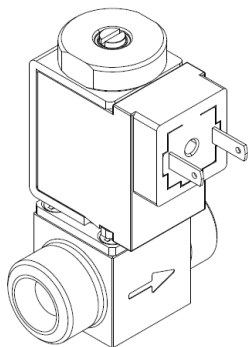




# Control Valve

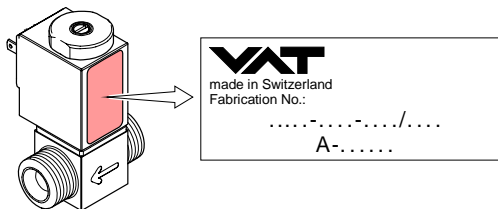
62714-XE64-...3



Operating Manual

## 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 (**basic valves without optional flange**) with part numbers

62714-XE64-ABG3	(100 sccm)
62714-XE64-ABH3	(500 sccm)
62714-XE64-ABI3	(1000 sccm)
62714-XE64-ABJ3	(5000 sccm)

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 62714-XE64-.... Control Valve is used in conjunction with the 627PM-16GV-000. Controller or another control device for controlling gas flows and thus maintaining a desired pressure in a vacuum system.

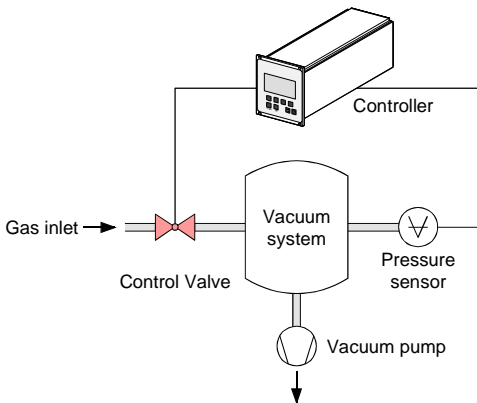
It must not be used for controlling liquid gases.

## Functional Principle

The 62714-XE64-.... Control Valve opens and closes as a function of the control voltage.

It will close or remain closed in the event of a power loss.

Example of a control loop:



## 1. Safety

### 1.1 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.

### 1.2 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.

## 1.3 General Safety Instructions

- Adhere to the applicable regulations and take the necessary precautions for the process media used.  
Consider possible reactions between the materials 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.

## 1.4 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.

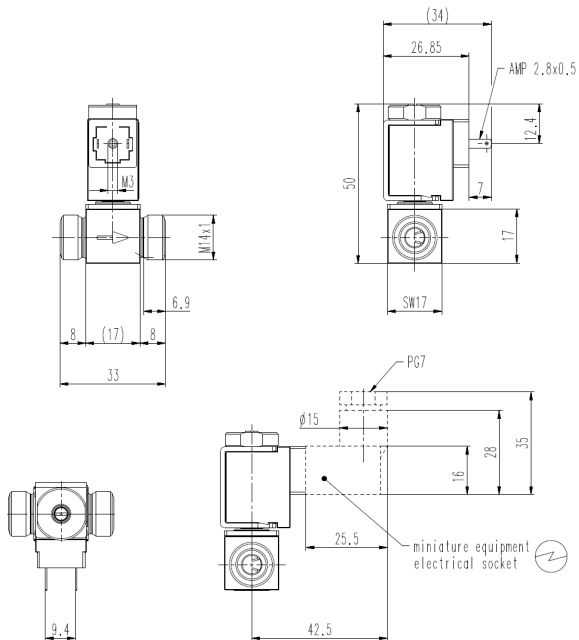
The end-user assumes the responsibility in conjunction with the process media used.

## 2. Technical Data

Vacuum connection	M14×1									
Adapters (accessories) flange fitting tube fitting	DN 10 ISO-KF OD ¼", OD 6 mm									
Installation angle	any, preferably perpendicular									
Pressure range	1×10 <sup>-8</sup> ... 2 bar (absolute)									
Tightness	1×10 <sup>-9</sup> mbar l/s									
Gas flow <sup>1)</sup>	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 5px;"><b>Note!</b> Basic valves without optional flange.</td> </tr> </table> <table border="0"> <tr> <td style="padding-right: 20px;">62714-XE64-ABG3</td> <td>100 sccm F.S.</td> </tr> <tr> <td>62714-XE64-ABH3</td> <td>500 sccm F.S.</td> </tr> <tr> <td>62714-XE64-ABI3</td> <td>1000 sccm F.S.</td> </tr> <tr> <td>62714-XE64-ABJ3</td> <td>5000 sccm F.S.</td> </tr> </table>	<b>Note!</b> Basic valves without optional flange.	62714-XE64-ABG3	100 sccm F.S.	62714-XE64-ABH3	500 sccm F.S.	62714-XE64-ABI3	1000 sccm F.S.	62714-XE64-ABJ3	5000 sccm F.S.
<b>Note!</b> Basic valves without optional flange.										
62714-XE64-ABG3	100 sccm F.S.									
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62714-XE64-ABI3	1000 sccm F.S.									
62714-XE64-ABJ3	5000 sccm F.S.									
Response time	<30 ms									
Supply voltage	0 ... 24 VDC									
Control range	20 ... 70 mA, 1 ... 100% F.S.									
Power	2.5 W									
Duty cycle	100%									
Degree of protection	IP51									
Temperature Ambiance Bakeout	5 °C ... 50 °C 80 °C (with idle coil)									
Materials Housing Armature Guiding tube Springs Seals	stainless steel 1.4301 stainless steel 1.4105 IL stainless steel 1.4305, 1.4105 IL stainless steel 1.4310 FPM									
Weight	96 g									

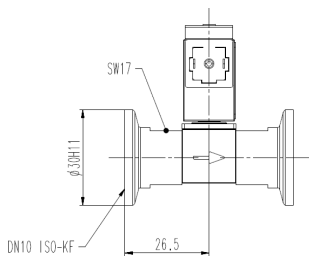
<sup>1)</sup> For air at a pressure difference  $\Delta p = 1$  bar

## Dimensions [mm]

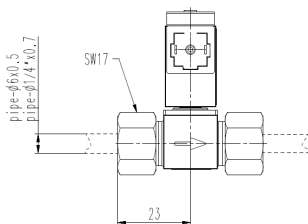


## Adapters (accessories)

DN10 ISO-KF (M1:1)



pipe OD 6mm / pipe OD 1/4" (M1:1)

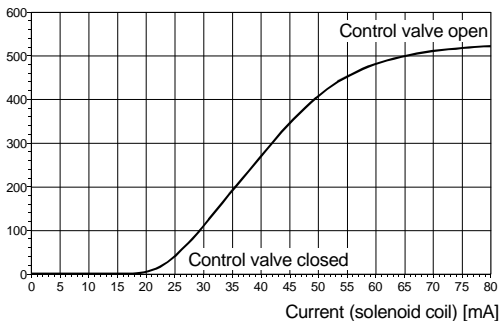




## Flow rate curve



Example of a flow rate curve (mean values 500 sccm F.S) at a pressure difference  $\Delta p = 1$  bar



Gas flow [sccm]



### 3. Installation

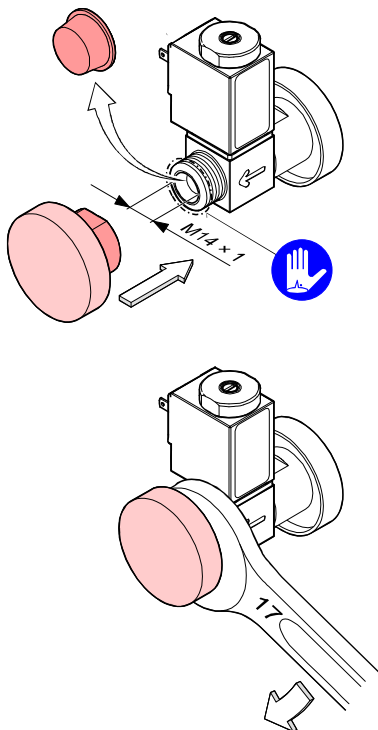
#### 3.1 Vacuum Connection

	 <b>Caution</b>
<p>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.</p>	

	 <b>Caution</b>
<p>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.</p>	

### 3.1.1 Flange Connections

- 1 Remove the protective lids and mount two flange connections.



- 2** Remove the protective lids and install the product to the vacuum system.

**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.

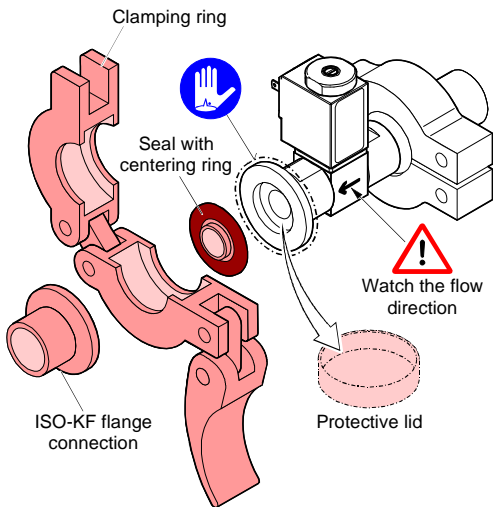
Do not open any clamps while the vacuum system is pressurized. Use the type of clamps which are suited to overpressure.

**DANGER**

**DANGER:** overpressure in the vacuum system >2.5 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.



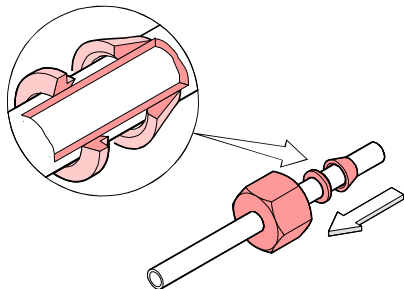
Keep the protective lids.

- 3 Check that the vacuum connections are leak tight.

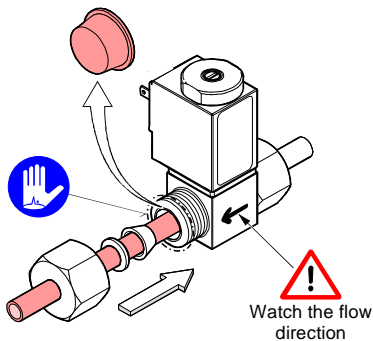
### 3.1.2 Tube Connections

- 1 Cut the tube to the required length and remove the burs.

- 2** Slide the union nut and clamping rings over the tube.

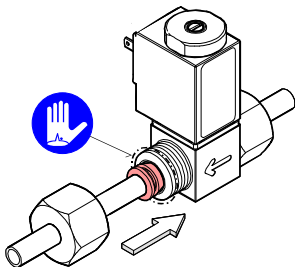


- 3** Remove the protective lid and insert the tube until the mechanical stop is reached.

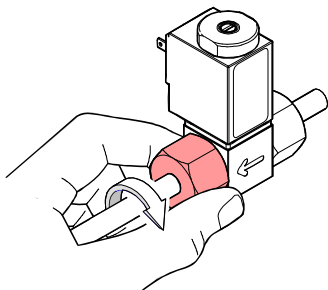


Keep the protective lids.

- 4** Slide the clamping rings up to the mechanical stop.

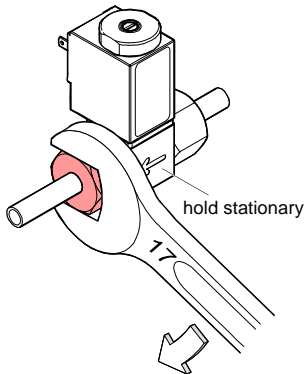


- 5** Tighten the union nut with your fingers.



**6** Tighten the union nut


- initial installation by  $\frac{3}{4}$  turns (stainless steel)
- subsequent installation by  $\frac{1}{4}$  turns (stainless steel)




**7** Check that the vacuum connections are leak tight.

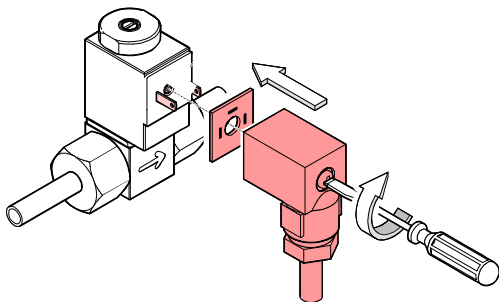


## 3.2 Electrical Connection

 The polarity of the 24 VDC connection need not be taken into consideration.

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

Plug in the cable socket and secure it with the screw.



## 4. Operation



The 62714-XE64-.... Control Valve is ready for operation as soon as it has been installed.

It will close or remain closed in the event of a power loss.

## 5. De-installation

### Precondition

Vacuum system vented.

	 <b>DANGER</b>
<p><b>DANGER: contaminated parts</b> 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.</p>	



**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.

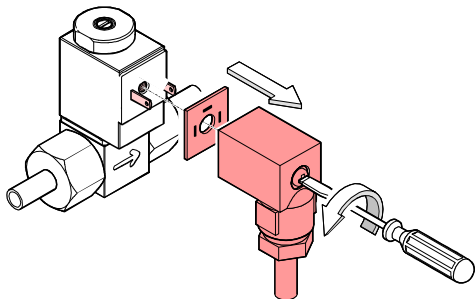
Always wear clean, lint-free gloves and use clean tools when working in this area.



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

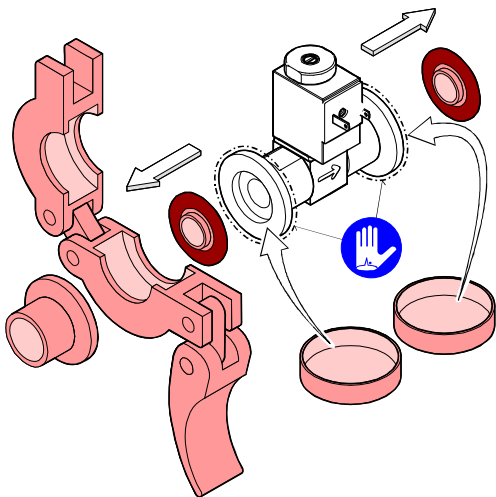
**Procedure**

- 1** Unfasten the lock screw and unplug the cable socket.

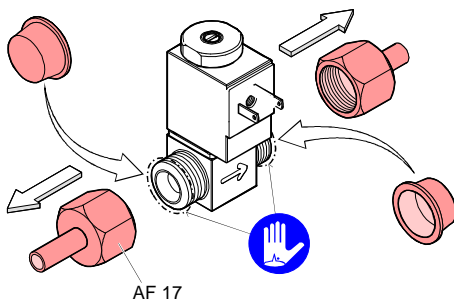


- 2** Remove the product from the vacuum system and place the protective lids.

**Flange connections**



### Tube connections





## 6. Maintenance / Repair



Under clean operating conditions, the product requires no maintenance.

### 6.1 Replacing the filter

#### Precondition

Valve de-installed.

	 <b>DANGER</b>
<p><b>DANGER: contaminated parts</b> Contaminated parts can be detrimental to health and environment.</p> <p>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.</p>	

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



### Caution



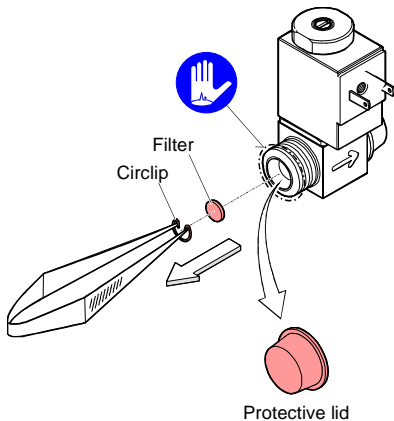
Caution: dirt sensitive area

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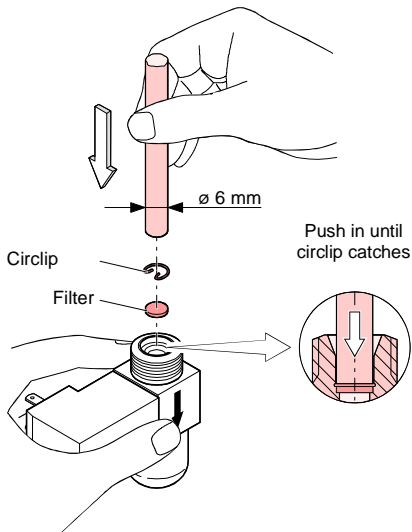
### Procedure

- 1 Remove the filter from the inlet.







**2** Mount the filter.



## 7. Accessories



		Ordering number	
Adapter M14x1			
1 flange connection DN 10 KF		579211	
1 tube connection OD ¼"		579257	
1 tube connection OD 6 mm		579292	
Connection cable for 627PM-16GV-000. Controller		3 m 5 m 10 m 15 m 20 m 25 m	627CV-89LC-000. 627CV-89LE-000. 627CV-89LJ-000. 627CV-89LK-000. 627CV-89LL-000. 627CV-89LX-AIK.
Filter kit, comprising 10 poral filter ø6x1 10 circlips		579255	



## 8. Returning the Product

	 <b>WARNING</b>
<p><b>WARNING: forwarding contaminated products</b> Contaminated products (e.g. radioactive, toxic, caustic or biological hazard) can be detrimental to health and environment.</p> <p>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 <a href="http://www.vatvalve.com">www.vatvalve.com</a>.</p>	

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.

## 9. Disposal

	 <b>DANGER</b>
	<p><b>DANGER:</b> contaminated parts</p> <p>Contaminated parts can be detrimental to health and environment.</p> <p>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.</p>

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

### Separating the components

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

- Contaminated components  
Contaminated components (radioactive, toxic, caustic, microbiological 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.

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