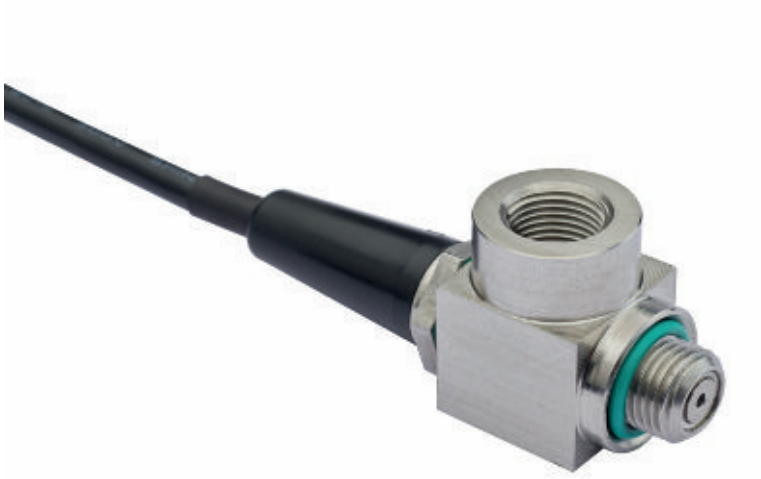


OPERATING INSTRUCTIONS

EN

Translation of the Original

ACCESSORIES

Venting valve

PFEIFFER VACUUM

Dear customer,

Thank you for choosing a Pfeiffer Vacuum product. Your new Pfeiffer Vacuum accessory should support you in your individual application with full performance and without malfunctions. The name Pfeiffer Vacuum stands for high-quality vacuum technology, a comprehensive and complete range of top-quality products and first-class service. With this expertise, we have acquired a multitude of skills contributing to an efficient and secure implementation of our product.

Knowing that our product must not interfere with your actual work, we are convinced that our product offers you the solution that supports you in the effective and trouble-free execution of your individual application.

Please read these operating instructions before putting your product into operation for the first time. If you have any questions or suggestions, please feel free to contact info@pfeiffer-vacuum.de.

Further operating instructions from Pfeiffer Vacuum can be found in the Download Center on our website.

Disclaimer of liability

These operating instructions describe all models and variants of your product. Note that your product may not be equipped with all features described in this document. Pfeiffer Vacuum constantly adapts its products to the latest state of the art without prior notice. Please take into account that online operating instructions can deviate from the printed operating instructions supplied with your product.

Furthermore, Pfeiffer Vacuum assumes no responsibility or liability for damage resulting from the use of the product that contradicts its proper use or is explicitly defined as foreseeable misuse.

Copyright

Table of contents

1 About this manual

IMPORTANT
Read carefully before use.
Keep the manual for future consultation.

1.1 Validity

These operating instructions are a customer document of Pfeiffer Vacuum. The operating instructions describe the functions of the named product and provide the most important information for the safe use of the device. The description is written in accordance with the valid directives. The information in these operating instructions refers to the product's current development status. The document shall remain valid provided that the customer does not make any changes to the product.

1.1.1 Applicable documents

Designation	Document
Declaration of conformity	A component of these instructions

Tbl. 1: Applicable documents

You can find this document in the Pfeiffer Vacuum Download Center.

1.1.2 Variants

- Venting valve, shielded, 24 V DC, AccessLink

1.2 Target group

This operating instructions is intended for persons who

- install,
- operate.

The work described in this document may be carried out only by people who have completed suitable technical training (experts), or who have received equivalent training from Pfeiffer Vacuum.

1.3 Conventions

1.3.1 Instructions in the text

Usage instructions in the document follow a general structure that is complete in itself. The required action is indicated by an individual step or multi-part action steps.

Individual action step

A horizontal, solid triangle indicates the only step in an action.

► This is an individual action step.

Sequence of multi-part action steps

The numerical list indicates an action with multiple necessary steps.

1. Step 1
2. Step 2
3. ...

1.3.2 Pictographs

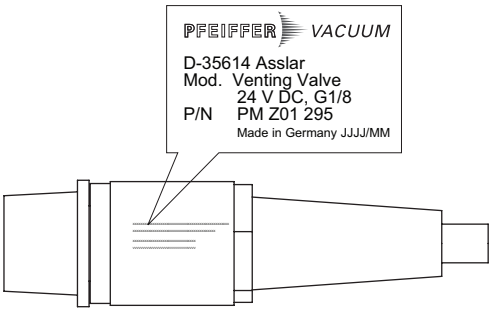
Pictographs used in the document indicate useful information.

Note

Tip

1.3.3 Labeling on the product

This section describes all existing labeling on the product along with its meaning.



Rating plate (example)

The rating plate is laser-marked on the bottom side of the housing.

Tbl. 2: Labeling on the product

1.3.4 Abbreviations

DN	Nominal diameter as size description
ISO	Flange: Connection in accordance with ISO 1609 and ISO 2861
LED	Light emitting diode
WAF	Width Across Flats
TC	Turbopump electronic drive unit (turbo controller)

Tbl. 3: Abbreviations used in this document

2 Safety

2.1 General safety information

The following 4 risk levels and 1 information level are taken into account in this document.

⚠ DANGER

Immediately pending danger

Indicates an immediately pending danger that will result in death or serious injury if not observed.

► Instructions to avoid the danger situation

⚠ WARNING

Potential pending danger

Indicates a pending danger that could result in death or serious injury if not observed.

► Instructions to avoid the danger situation

⚠ CAUTION

Potential pending danger

Indicates a pending danger that could result in minor injuries if not observed.

► Instructions to avoid the danger situation

NOTICE

Danger of damage to property

Is used to highlight actions that are not associated with personal injury.

► Instructions to avoid damage to property

Notes, tips or examples indicate important information about the product or about this document.

2.2 Safety instructions

All safety instructions in this document are based on the results of the risk assessment carried out in accordance with Low Voltage Directive 2014/35/EU. Where applicable, all life cycle phases of the product were taken into account.

Risks during operation

⚠ CAUTION

Risk of injuries due to contact with vacuum when venting

While venting the vacuum pump there is a risk of minor injuries due to the direct contact of body parts with the vacuum, e.g. hematomas.

► Do not fully unscrew the venting screw out of the housing during venting.
► Keep a distance from automatic venting device, such as venting valves.

2.3 Safety precautions

Duty to provide information on potential dangers

The product holder or user is obliged to make all operating personnel aware of dangers posed by this product.

Every person who is involved in the installation, operation or maintenance of the product must read, understand and adhere to the safety-related parts of this document.

Infringement of conformity due to modifications to the product

The Declaration of Conformity from the manufacturer is no longer valid if the operator changes the original product or installs additional equipment.

- Following the installation into a system, the operator is required to check and re-evaluate the conformity of the overall system in the context of the relevant European Directives, before commissioning that system.

General safety precautions when handling the product

- ► Observe all applicable safety and accident prevention regulations.
- ► Check that all safety measures are observed at regular intervals.
- ► Never disconnect plug connections during operation.
- ► Keep lines and cables away from hot surfaces (> 70 °C).
- ► Observe the unit protection degree prior to installation or operation in other environments.
- ► Do not carry out your own conversions or modifications on the unit.

2.4 Proper use

- ► Use the venting valve only for controlled venting on the designated Pfeiffer Vacuum turbopumps.

2.5 Foreseeable improper use

Improper use of the product invalidates all warranty and liability claims. Any use that is counter to the purpose of the product, whether intentional or unintentional, is regarded as improper use; in particular:

- Connecting to vacuum pumps and units that are not designed for this purpose according to their operating instructions
- Connecting to units with exposed live parts

2.6 Personnel qualification

The work described in this document may only be carried out by persons who have appropriate professional qualifications and the necessary experience or who have completed the necessary training as provided by Pfeiffer Vacuum.

Training people

1. Train the technical personnel on the product.
2. Only let personnel to be trained work with and on the product when under the supervision of trained personnel.
3. Only allow trained technical personnel to work with the product.
4. Before starting work, make sure that the commissioned personnel have read and understood these operating instructions and all applicable documents, in particular the safety, maintenance and repair information.

3 Product description

3.1 Function

The Pfeiffer Vacuum venting valve ensures automatic venting of a turbopump after shutting down or in the event of a power failure.

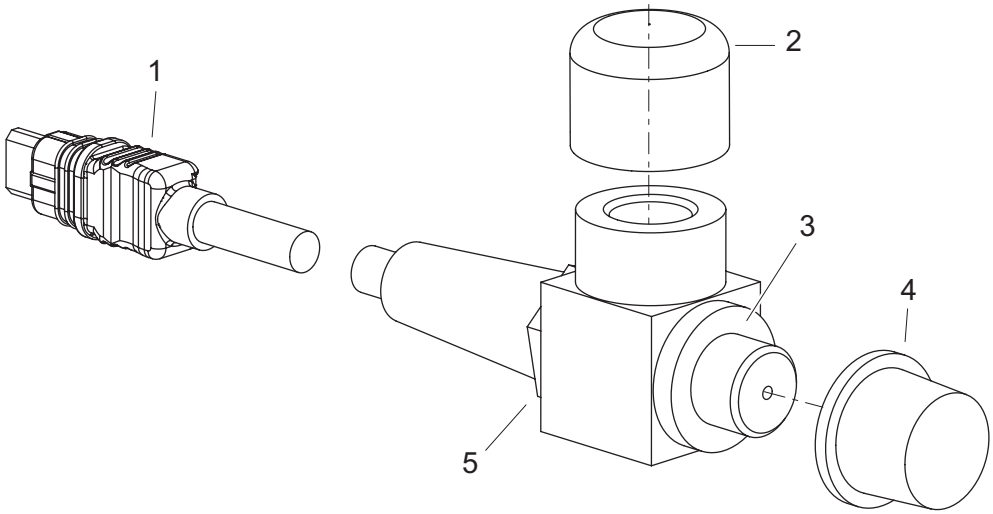


Fig. 1: Layout of venting valve

1 Control cable with connecting plug
2 Protective cap
3 Sealing ring
4 Protective plug
5 Valve body

3.2 Scope of delivery

- Venting valve
- Sealing ring
- Sealing plugs
- Operating instructions

4 Installation and operation

4.1 Connecting venting valve

NOTICE

Property damage caused by unfiltered media supply

Using unfiltered media for the gas inlet of a vacuum pump may result in particle contamination. There is a risk of damage to, and even destruction of, vacuum components.

► Install suitable filters from the Pfeiffer Vacuum accessories range upstream of the gas inlet, before you use ambient air or other unclean media.

Prerequisites

- Vacuum pump switched off and vented

Required tools

- Hexagon wrench, WAF 14
- Calibrated torque wrench (tightening factor ≤ 1.6)

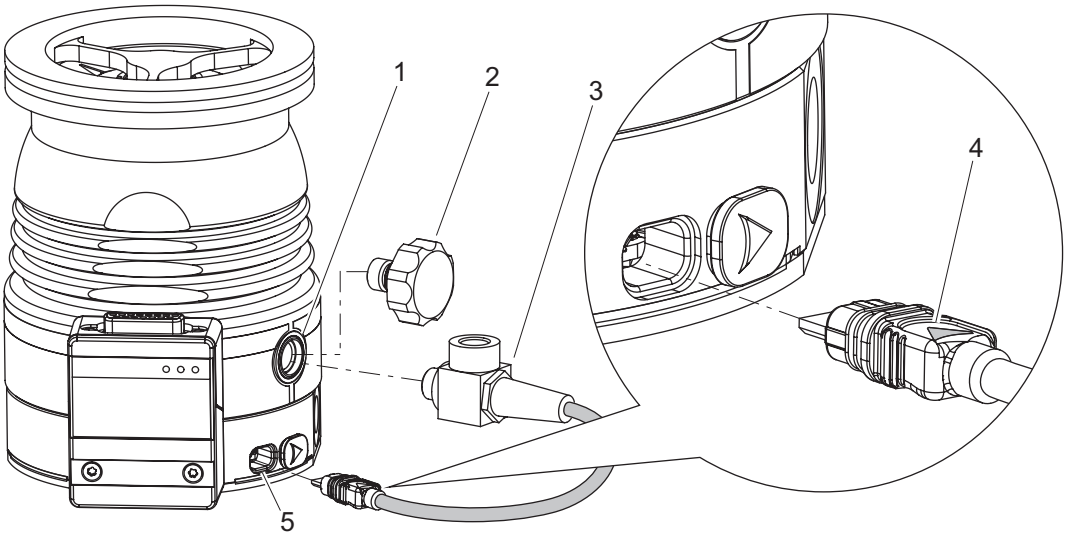


Fig. 2: Connecting venting valve to HiPace Neo

1 Venting connection, turbopump
2 Venting screw
3 Valve body
4 Connecting plug with Pfeiffer Vacuum logo
5 Turbopump accessory connection

Fitting the venting valve

1. Unscrew the venting screw with sealing ring out of the turbopump by hand.
2. Screw the venting valve with the outlet side into the venting connection of the turbopump.
   – Tightening torque: **2 Nm**.

Connecting venting valve to turbopump

► Plug the control cable of the venting valve into one of the two accessory connections "C1" or "D1" on the pump bottom part.
   – Make sure that the Pfeiffer Vacuum logo on the connecting plug is facing up.
   – The electronic drive unit software automatically resets existing configuration settings to "default" and automatically detects newly connected accessories.

Establish the venting gas supply

In case you want to use dry room air as venting gas, the venting valve is ready for operation immediately. Pfeiffer Vacuum recommends: Use a filter on the inlet side.

If you wish to use a different inert gas (e.g. nitrogen N_2) as the venting gas, follow the steps.

1. Provide an external venting gas supply with a maximum inlet pressure of 1,500 hPa absolute.
2. Connect the venting gas supply to the inlet side (1/8" thread) of the valve.
3. If required, use connection adapters from the valve accessories (not included in the scope of supply).

4.2 Operating venting valve

⚠ CAUTION

Risk of injuries due to contact with vacuum when venting

While venting the vacuum pump there is a risk of minor injuries due to the direct contact of body parts with the vacuum, e.g. hematomas.

- ► Do not fully unscrew the venting screw out of the housing during venting.
- ► Keep a distance from automatic venting device, such as venting valves.

NOTICE

Damage to the turbopump due to non-permissibly fast pressure rise during venting

Non-permissibly high pressure rise rates place a significant load on the rotor and the magnetic bearing of the turbopump. During venting very small volumes in the vacuum chamber or the turbopump, there is a risk of uncontrollable pressure rises. This causes mechanical damage to the turbopump, including potential failure.

- ► Observe the prescribed maximum pressure rise speed of **15 hPa/s**.
- ► Avoid manual and uncontrolled venting of very low volumes.
- ► Where necessary, use a venting valve from the Pfeiffer Vacuum range of accessories.

Parameter	Name	Designation	Setting
[P:012]	EnableVent	Enable venting	0 = no 1 = yes
[P:030]	VentMode	Venting mode	0 = Delayed venting 1 = No venting 2 = Direct venting
[P:068]	CfgAccC1	Accessory connection C1	1 = Venting valve, closed without current 6 = Always "0" 7 = Always "1" 8 = Power failure venting unit 12 = Second venting valve
[P:069]	CfgAccD1	Accessory connection D1	Functions, see [P:068]

Tbl. 4: Parameter settings in the electronic drive unit of the turbopump

Venting speed [P:720]	Venting duration [P:721]	Venting duration in the event of a power failure
50% of rated speed	3600 s	3600 s

Tbl. 5: Factory settings for delayed venting in turbopumps

5 Recycling and disposal

Environmental protection

You **must** dispose of the product and its components in accordance with all applicable regulations for protecting people, the environment and nature.

- Help to reduce the wastage of natural resources.
- Prevent contamination.

Pfeiffer Vacuum products contain materials that you must recycle.

► Observe the special precautionary measures when disposing of:
  – Fluoroelastomers (FKM)
  – Potentially contaminated components that come into contact with media

6 Accessories, technical data and dimensions

6.1 Accessories

Description	Order number
Push-in fitting for 6 mm tube, G 1/8"	PM 016 781 -T
Push-in fitting for 8 mm tube, G 1/8"	PM 016 782 -T
Filter element | silencer G1/8"	P 0988 060

Tbl. 6: Optional accessories

6.2 Technical data

Type designation	Venting valve, shielded, with AccessLink
Part number	PM Z01 295
Connection flange (in)	G 1/8"
Connection flange (out)	G 1/8"
Weight	45 g
Inlet pressure max.	1500 hPa (absolute)
Integral leak rate	$< 1 \cdot 10^{-9}$ Pa m³/s
Gas flow at atmospheric pressure min.	100 hPa·l/s
Gas flow at atmospheric pressure max.	130 hPa·l/s
Electronic drive unit	TC 80
Electrical connection	AccessLink
Control voltage	24 V DC

Tbl. 7: Technical data, venting valve

6.3 Dimensions

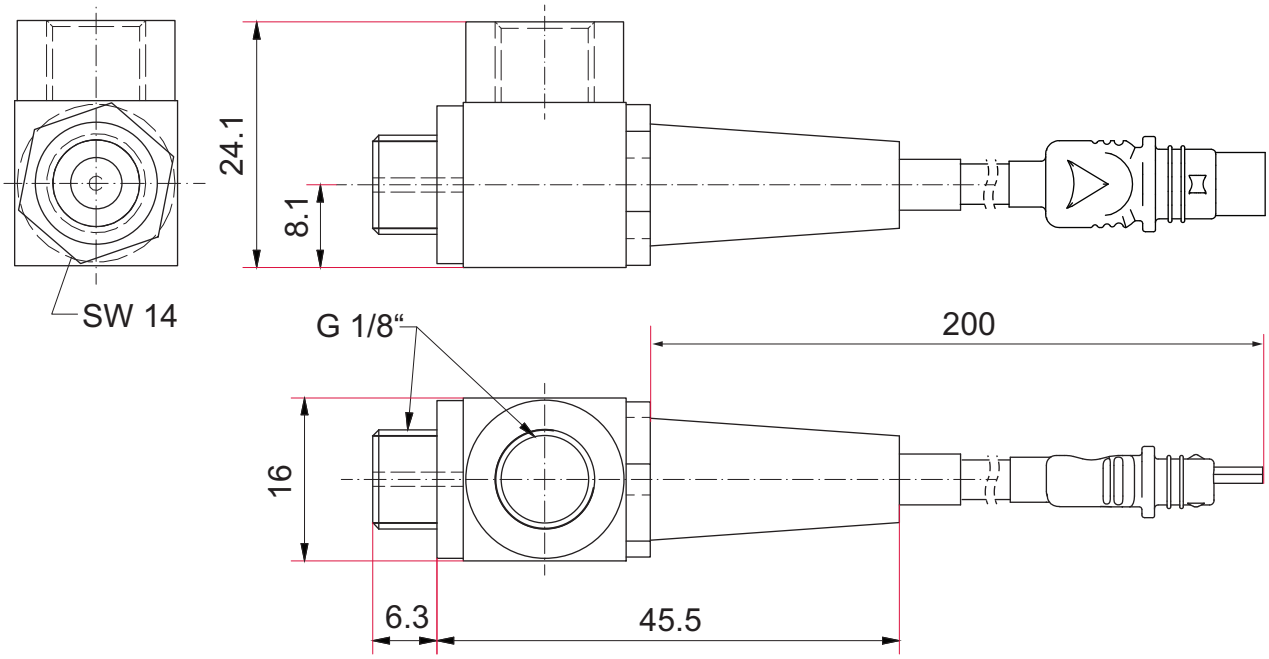


Fig. 3: Venting valve dimensions

Dimensions in mm

EU Declaration of conformity

This declaration of conformity has been issued under the sole responsibility of the manufacturer.

Declaration for product(s) of the type:

Venting Valve

Turbopumps

We hereby declare that the listed product satisfies all relevant provisions of the following **European Directives**.

Electromagnetic compatibility 2014/30/EU

Low voltage 2014/35/EU

Restriction of the use of certain hazardous substances 2011/65/EU

Restriction of the use of certain hazardous substances, delegated directive 2015/863/EU

Harmonized standards and applied national standards and specifications:

DIN EN 61000-3-2: 2019

DIN EN 61000-3-3: 2020

DIN EN 61326-1: 2022

DIN VDE 0580: 2011

Signature:

Pfeiffer Vacuum GmbH
Berliner Straße 43
35614 Asslar
Germany

(Daniel Sälzer)
Managing Director

Aßlar, 2022-11-23

CE

PFEIFFER VACUUM

UK Declaration of Conformity

This declaration of conformity has been issued under the sole responsibility of the manufacturer.

Declaration for product(s) of the type:

Venting valve

Turbopumps

We hereby declare that the listed product satisfies all relevant provisions of the following **British Directives**.

Electromagnetic Compatibility Regulations 2016

The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

Applied standards and specifications:

EN IEC 61000-3-2: 2019

EN IEC 61000-3-3: 2013

EN IEC 61326-1: 2021

The manufacturer's authorized representative in the United Kingdom and the authorized agent for compiling the technical documentation is Pfeiffer Vacuum Ltd, 16 Plover Close, Interchange Park, MK169PS Newport Pagnell.

Signature:

Pfeiffer Vacuum GmbH
Berliner Straße 43
35614 Asslar
Germany

(Daniel Sälzer)
Managing Director

Asslar, 2022-11-24

UK CA

PFEIFFER VACUUM

VACUUM SOLUTIONS FROM A SINGLE SOURCE

Pfeiffer Vacuum stands for innovative and custom vacuum solutions worldwide, technological perfection, competent advice and reliable service.

COMPLETE RANGE OF PRODUCTS

From a single component to complex systems:
We are the only supplier of vacuum technology that provides a complete product portfolio.

COMPETENCE IN THEORY AND PRACTICE

Benefit from our know-how and our portfolio of training opportunities!
We support you with your plant layout and provide first-class on-site service worldwide.

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