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OPERATING INSTRUCTIONS

EN

Translation of the Original

LP 4XX | LP 5XX

Sniffer probe

PFEIFFER VACUUM

Dear Customer,

Thank you for choosing a Pfeiffer Vacuum product. Your new sniffer probe is designed to support you with its performance, perfect operation and without impacting on your individual application. The name Pfeiffer Vacuum stands for high-quality vacuum technology, a comprehensive and complete range of top-quality products and first-class service. From this extensive, practical experience we have gained a large volume of information that can contribute to efficient deployment and to your personal safety.

In the knowledge that our product must avoid consuming work output, we trust that our product can offer you a solution that supports you in the effective and trouble-free implementation 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

This document is the intellectual property of Pfeiffer Vacuum and all contents of this document are protected by copyright. They may not be copied, altered, reproduced or published without the prior written permission of Pfeiffer Vacuum.

We reserve the right to make changes to the technical data and information in this document.

Table of contents

1 About this manual 6
1.1 Validity 6
1.1.1 Related documents 6
1.1.2 Variants 6
1.2 Target group 6
1.3 Conventions 7
1.3.1 Instructions in the text 7
1.3.2 Pictographs 7
1.3.3 Product labels 7

2 Safety 8
2.1 General safety instructions 8
2.2 Safety instructions 8
2.3 Safety precautions 10
2.4 Proper use 10
2.5 Foreseeable improper use 10
2.6 Responsibilities and warranty 11
2.7 Owner requirements 11
2.8 Personnel qualification 11
2.8.1 Ensuring personnel qualification 11
2.8.2 Personnel qualification for maintenance and repair 12
2.8.3 Advanced training with Pfeiffer Vacuum 12
2.9 Operator requirements 12

3 Transport and storage 13

4 Product description 14
4.1 Identifying the product 14
4.2 Scope of delivery 14
4.3 Structure 14
4.4 Operating principle 14

5 Installation 16

6 Operation 17

7 Dismantling 18

8 Maintenance 19
8.1 Spare parts of the sniffer probe 19
8.2 Replace the felt washers or capillary filter 19
8.3 Check and replace the sinter filter 20
8.4 Capillary filter replacement 21

9 Errors 23

10 Shipping 24

11 Disposal 25

12 Service solutions from Pfeiffer Vacuum 26

13 Ordering information 28
13.1 Ordering parts 28
13.2 Spare parts 28
13.3 Optional components 28

14 Technical data and dimensions 29

List of tables

Tbl. 1:	Related documents	6
Tbl. 2:	Evaluation of results of gas throughput measurement	20
Tbl. 3:	Visual condition of the sinter filter parts	20
Tbl. 4:	Evaluation of results of gas throughput measurement	21
Tbl. 5:	Troubleshooting	23
Tbl. 6:	Pin assignment of the RJ45 plug	29
Tbl. 7:	Sniffing tips available	29

List of figures

Fig. 1:	Length "L" of the supply line	6
Fig. 2:	Leak detection schematic	14
Fig. 3:	Attaching the connections	16
Fig. 4:	Disconnecting the connections	18
Fig. 5:	Capillary filter	21
Fig. 6:	Press the capillary out of the sniffing tip	21
Fig. 7:	Remove the capillary	22

1 About this manual

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

1.1 Validity

This document describes the function of the products listed in the following and provides the most important information for safe use. The description is written in accordance with the valid directives. The information in this document refers to the current development status of the products. The document retains its validity assuming that the customer does not make any changes to the product.

1.1.1 Related documents

Designation	Document
Operating instructions "Leak detector"	(depending on the device used)

Tbl. 1: Related documents

1.1.2 Variants

This document applies to products with the following part numbers:

Part number	Designation	Length (L)
PT 445 323-T	LP 403	3 m
PT 445 324-T	LP 405	5 m
PT 445 325-T	LP 410	10 m
BG 449 207-T	LP 503	3 m
BG 449 208-T	LP 505	5 m
BG 449 209-T	LP 510	10 m

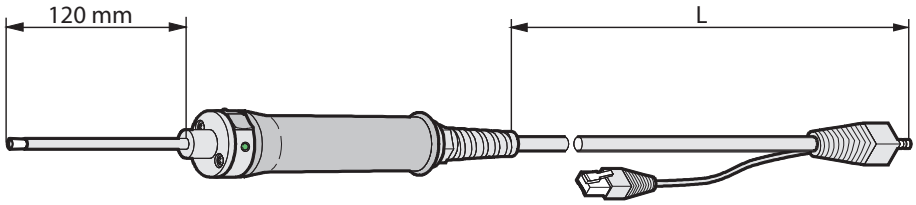


Fig. 1: Length "L" of the supply line

The part number is found on the rating plate of the product.

Pfeiffer Vacuum reserves the right to make technical changes without prior notification.

The figures in this document are not to scale (dimensions in mm).

1.2 Target group

These operating instructions are aimed at all persons performing the following activities on the product:

- Transportation
- Setup (Installation)
- Usage and operation
- Decommissioning
- Maintenance and cleaning
- Storage or disposal

The work described in this document is only permitted to be performed by persons with the appropriate technical qualifications (expert personnel) or who have received the relevant 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.



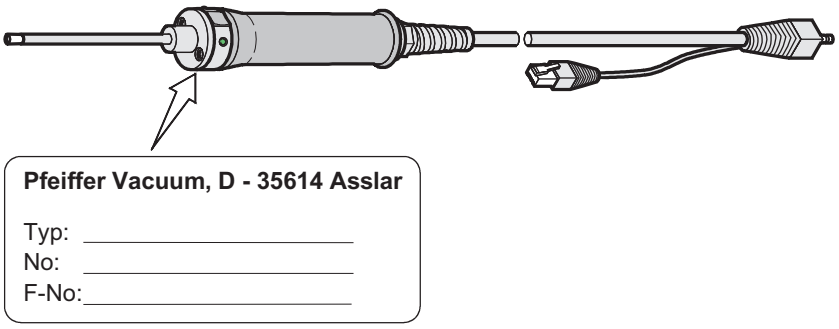
Note



Tip

1.3.3 Product labels

This section describes all the labels on the product along with their meaning.



Rating plate

The rating plate is located on the front side of the sniffer probe.

2 Safety

2.1 General safety instructions

This document includes the following 4 risk levels and 1 information level.

⚠ DANGER

Imminent danger

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

► Instructions on avoiding the hazardous situation

⚠ WARNING

Possibly imminent danger

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

► Instructions on avoiding the hazardous situation

⚠ CAUTION

Possibly imminent danger

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

► Instructions on avoiding the hazardous situation

NOTICE

Danger of property damage

Notice is used to address practices not related to physical injury.

► Instructions on avoiding property damage

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

2.2 Safety instructions

Safety instructions according to product's life stages

All safety instructions in this document are based on the results of a risk assessment. Pfeiffer Vacuum has taken into account all the relevant life stages of the product.

Risks during transport

NOTICE

Damage caused by incorrect transportation

Transportation in unsuitable packaging, or failure to install all transport locks, can damage the product.

► Comply with the instructions for safe transportation.

Risks during storage

NOTICE

Damage caused by improper storage

Improper storage will lead to damage to the product.

► Comply with the instructions for safe storage.

Risks during installation

NOTICE

Damage caused by incorrectly connecting or disconnecting the sniffer probe

Before you are allowed to connect the sniffer probe to the leak detector, the leak detector must be in the correct mode in order to avoid damage.

Before you are allowed to disconnect the sniffer probe from the leak detector, the probe must be disabled at the leak detector first in order to avoid damage.

- ► Observe the Leak detector operating manual.
- ► Observe the correct mode of the leak detector before you connect the sniffer probe to the leak detector.
- ► Deactivate the sniffer probe on the leak detector before disconnecting the sniffer probe from the leak detector.

Risks during operation

⚠ DANGER

Danger to life from electric shock

The sniffer probe must not make contact with live parts.

- ► Disconnect test samples operated electrically from the mains before starting leak detection.

⚠ CAUTION

Health risks and environmental damage due to the process gases used

Gases used (process gases) represent a health risk and damage to the environment.

- ► Check the leak tightness of the connections before introducing the process gas.
- ► Make sure that the exhaust gas system is suitable for the gases supplied.
- ► Consider potential interactions between the materials and process gases.
- ► When handling the gases used, observe the applicable guidelines.
- ► Observe the protective measures.

NOTICE

Fluid congestion

Fluid intake leads to congestion of the sniffing tip and the sniffing pipe.

- ► Avoid fluid intake with the sniffing tip (e.g. water, oil or adhesive).

Risks during maintenance

⚠ WARNING

Health hazard through poisoning from toxic contaminated components or devices

Toxic process media result in contamination of devices or parts of them. During maintenance work, there is a risk to health from contact with these poisonous substances. Illegal disposal of toxic substances causes environmental damage.

- ► Take suitable safety precautions and prevent health hazards or environmental pollution by toxic process media.
- ► Decontaminate affected parts before carrying out maintenance work.
- ► Wear protective equipment.

Risks when shipping

⚠ WARNING

Risk of poisoning from contaminated products

Where products that contain harmful substances are shipped for maintenance or repair purposes, the safety of service personnel is at risk.

- ► Comply with the instructions for safe shipping.

Risks during disposal

⚠ CAUTION

Health hazard caused by environmentally hazardous substances

Products, operating fluid, electric components, calibration gas residues (for example from test leaks) or similar pose health hazards.

- ► Dispose of the environmentally hazardous substances in accordance with local regulations.
- ► Dispose of calibration gas and test leaks in accordance with local regulations.

2.3 Safety precautions

The product is designed according to the latest technology and recognized safety engineering rules. Nevertheless, improper use can result in danger to operator all third party life and limb, and product damage and additional property damage.

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.

Meet fundamental safety measures

1. When handling the gases and contaminated parts used, observe the applicable guidelines.
2. Observe the protective measures.
3. Observe the safety guidelines specified in this document.
   - – All work is only permissible when observing the relevant guidelines and adhering to the protective measures.
4. Inform yourself about any contamination before starting work.
5. Pass on safety instructions to all other users.

2.4 Proper use

You can use sniffer probes LP 503, LP 505 and LP 510 in combination with the following leak detectors:

- HLT 550 SmartTest
- HLT 560 SmartTest
- HLT 565 SmartTest
- HLT 570 SmartTest
- HLT 572 SmartTest
- HLT 575 SmartTest
- QualyTest (predecessor to SmartTest)

You can use sniffer probes LP 403, LP 405 and LP 410 in combination with the following leak detector:

- ASM 340

Using the product according to its intended purpose

1. Install, operate and maintain the product only in accordance with these operating instructions.
2. Comply with the application limits.
3. Observe the technical data.

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 misuse, in particular:

- Use outside the mechanical and electrical application limits (technical data)
- Use with corrosive or explosive media, if this is not explicitly permitted
- Use outdoors
- Use after technical changes (on the inside or the outside of the product)
- Use with replacement or accessory parts that are unsuitable or are not approved

2.6 Responsibilities and warranty

Pfeiffer Vacuum shall assume no responsibilities and warranty if the operating company or a third party:

- disregards this document.
- does not use the product for its intended purpose.
- carries out any modifications to the product (conversions, changes, maintenance work, etc.) that are not listed in the corresponding operating instructions.
- operates the product with accessories that are not listed in the corresponding operating instructions.

The operator is responsible for the process media used.

2.7 Owner requirements

Safety-conscious working

1. Only operate the product in a technically flawless state.
2. Operate the product in line with its intended purpose, safety and hazard-conscious and only in compliance with these operating instructions.
3. Fulfill the following instructions and monitor the observation of the following instructions:
   - Proper use
   - Generally applicable safety instructions and accident prevention regulations
   - International, national and locally applicable standards and guidelines
   - Additional product-related guidelines and regulations
4. Only use original parts or parts approved by Pfeiffer Vacuum.
5. Keep the operating instructions available at the place of installation.
6. Ensure personnel qualification.

2.8 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.

2.8.1 Ensuring personnel qualification

Specialist for mechanical work

Only a trained specialist may carry out mechanical work. Within the meaning of this document, specialists are people responsible for construction, mechanical installation, troubleshooting and maintenance of the product, and who have the following qualifications:

- Qualification in the mechanical field in accordance with nationally applicable regulations
- Knowledge of this documentation

Specialist for electrotechnical work

Only a trained electrician may carry out electrical engineering work. Within the meaning of this document, electricians are people responsible for electrical installation, commissioning, troubleshooting, and maintenance of the product, and who have the following qualifications:

- Qualification in the electrical engineering field in accordance with nationally applicable regulations
- Knowledge of this documentation

In addition, these individuals must be familiar with applicable safety regulations and laws, as well as the other standards, guidelines, and laws referred to in this documentation. The above individuals must have an explicitly granted operational authorization to commission, program, configure, mark, and earth devices, systems, and circuits in accordance with safety technology standards.

Trained individuals
Only adequately trained individuals may carry out all works in other transport, storage, operation and disposal fields. Such training must ensure that individuals are capable of carrying out the required activities and work steps safely and properly.

2.8.2 Personnel qualification for maintenance and repair



Advanced training courses
Pfeiffer Vacuum offers advanced training courses to maintenance levels 2 and 3.

Adequately trained individuals are:

- **Maintenance level 1**
  - Customer (trained specialist)
- **Maintenance level 2**
  - Customer with technical education
  - Pfeiffer Vacuum service technician
- **Maintenance level 3**
  - Customer with Pfeiffer Vacuum service training
  - Pfeiffer Vacuum service technician

2.8.3 Advanced training with Pfeiffer Vacuum

For optimal and trouble-free use of this product, Pfeiffer Vacuum offers a comprehensive range of courses and technical trainings.

For more information, please contact Pfeiffer Vacuum technical training.

2.9 Operator requirements

Observing relevant documents and data

1. Read, observe and follow this operating instruction and the work instructions prepared by the operating company, in particular the safety and warning instructions.
2. Install, operate and maintain the product only in accordance with these operating instructions.
3. Carry out all work only on the basis of the complete operating instructions and applicable documents.
4. Comply with the application limits.
5. Observe the technical data.
6. Please contact the Pfeiffer Vacuum Service Center if your questions on operation or maintenance of the product are not answered by these operating instructions.
   – You can find information in the Pfeiffer Vacuum service area.

3 Transport and storage

NOTICE

Damage caused by incorrect transportation

Transportation in unsuitable packaging, or failure to install all transport locks, can damage the product.

► Comply with the instructions for safe transportation.

NOTICE

Damage caused by improper storage

Improper storage will lead to damage to the product.

► Comply with the instructions for safe storage.

Transporting the product safely

1. Observe the weight of the product.
2. Where possible, always transport or ship the product in the original packaging.
3. Always use dense and impact-proof packaging for the product.
4. Remove the existing protective cover and transport protections only immediately prior to installation.
5. Reattach transport locks and transport protections prior to each transport.

Storing the product safely

1. Store the product in a cool, dry, dust-free place, where it is protected against impacts and mechanical vibration.
2. Always use dense and impact-proof packaging for the product.
3. Where possible, store the product in the original packaging.
4. Store electronic components in antistatic packaging.
5. Maintain the permissible storage temperature.
6. Avoid extreme fluctuations of the ambient temperature.
7. Avoid high air humidity.
8. Seal connections with the original protective caps.
9. Protect the product with the original transport protections (where available).

4 Product description

4.1 Identifying the product

You will need all the data from the rating plate to safely identify the product when communicating with Pfeiffer Vacuum.

Recording rating plate data

1. Read the data on the product rating plate.
2. Record this data.
3. Always have all rating plate specifications to hand.

4.2 Scope of delivery

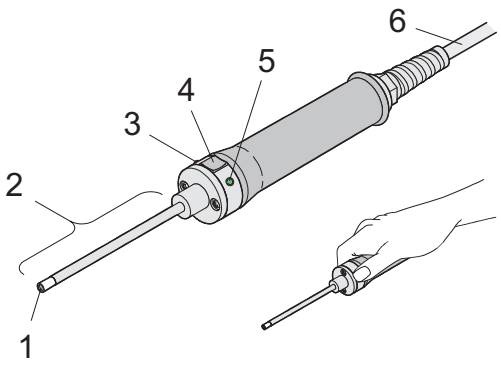
The shipment includes the following parts:

- Sniffer probe
- Operating instructions

Unpacking the product and checking completeness of the shipment

1. Unpack the product.
2. Remove the transport fasteners, transport protection etc.
3. Store the transport fasteners, transport protection etc. in a safe place.
4. Check that the shipment is complete.
5. Ensure that no parts are damaged.

4.3 Structure



1	Capillary filter	4	"SUPPRESS" button (green)
2	Sniffing tip	5	LED "READY" (green)
3	LED "LEAK" (red)	6	Sniffing line

4.4 Operating principle



Fig. 2: Leak detection schematic

The test object must be pressurized with test gas or a gas mixture containing test gas.

Then guide the sniffer probe around the part.

If a leak is present, the leak detector detects the escaping test gas and thus allows the leak to be located.

The two LEDs on the sniffer probe indicate OK/NOK.

The "SUPPRESS" button on the sniffer probe suppresses background interference.

5 Installation

NOTICE

Damage caused by incorrectly connecting or disconnecting the sniffer probe

Before you are allowed to connect the sniffer probe to the leak detector, the leak detector must be in the correct mode in order to avoid damage.

Before you are allowed to disconnect the sniffer probe from the leak detector, the probe must be disabled at the leak detector first in order to avoid damage.

- ► Observe the Leak detector operating manual.
- ► Observe the correct mode of the leak detector before you connect the sniffer probe to the leak detector.
- ► Deactivate the sniffer probe on the leak detector before disconnecting the sniffer probe from the leak detector.

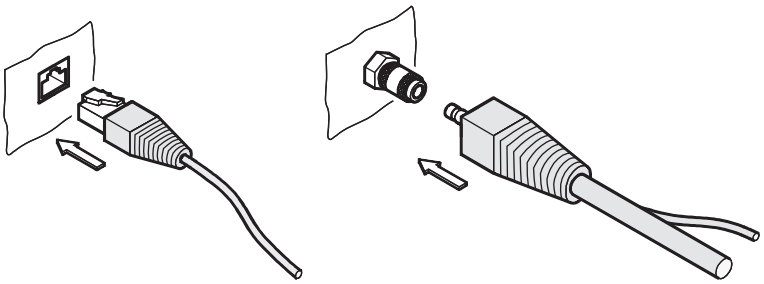


Fig. 3: Attaching the connections

Attaching the connections

1. Connect the RJ-45 plug on the sniffer probe to the leak detector.
2. Connect the sealing coupling on the sniffer probe to the leak detector.

6 Operation

NOTICE

Fluid congestion

Fluid intake leads to congestion of the sniffing tip and the sniffing pipe.

► Avoid fluid intake with the sniffing tip (e.g. water, oil or adhesive).

The execution of a sniffing test depends on the respective leak detector.

Detailed information on the sniffing test and its execution can be found in the leak detector operating manual.

For more information go to www.pfeiffer-vacuum.de (Leak detection).

7 Dismantling

NOTICE

Damage caused by incorrectly connecting or disconnecting the sniffer probe

Before you are allowed to connect the sniffer probe to the leak detector, the leak detector must be in the correct mode in order to avoid damage.

Before you are allowed to disconnect the sniffer probe from the leak detector, the probe must be disabled at the leak detector first in order to avoid damage.

- ► Observe the Leak detector operating manual.
- ► Observe the correct mode of the leak detector before you connect the sniffer probe to the leak detector.
- ► Deactivate the sniffer probe on the leak detector before disconnecting the sniffer probe from the leak detector.

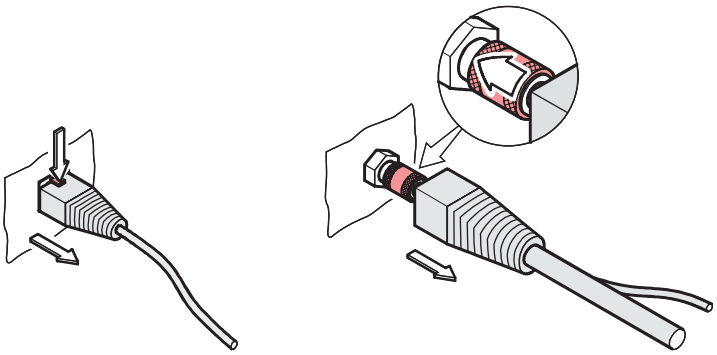


Fig. 4: Disconnecting the connections

Disconnecting the connections

1. Disconnect the RJ-45 plug on the sniffer probe from the leak detector.
2. Disconnect the sealing coupling on the sniffer probe from the leak detector.

8 Maintenance

Maintenance in the Pfeiffer Vacuum Service Center

Pfeiffer Vacuum offers a complete maintenance service for all products.

Pfeiffer Vacuum recommends: Contact your Pfeiffer Vacuum Service Center to arrange the maintenance of defective products and components.

Cleaning in the Pfeiffer Vacuum Service Center

Pfeiffer Vacuum recommends: Contact your nearest Pfeiffer Vacuum Service Center to arrange the cleaning of heavily-soiled products and components.

Loss of warranty claims

The following will result in the loss of the warranty:

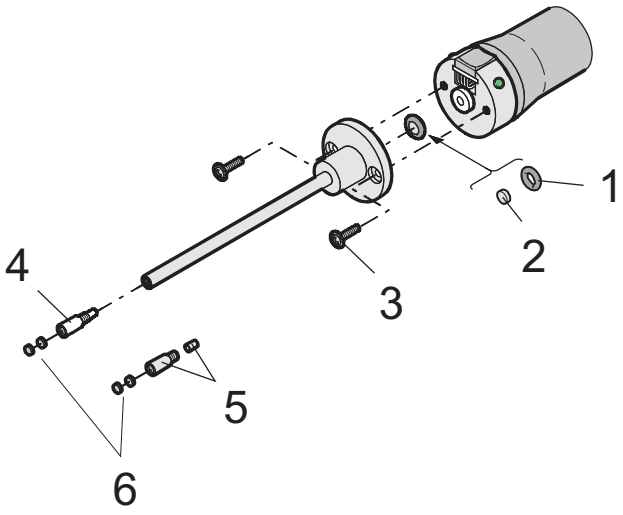
- Damage to or removal of a closure seal
- Opening the device during the warranty period

Contact the Pfeiffer Vacuum Service Center in the event of process-related shorter maintenance intervals.

First read through the sections completely

Read the section with the work instructions through completely first before you commence with work.

8.1 Spare parts of the sniffer probe



1	Seal	4	Capillary filter (plastic)
2	Sinter filter	5	Capillary filter (metal, with seal)
3	Crosshead screws	6	Felt washers

8.2 Replace the felt washers or capillary filter

Replace the felt washers or capillary filter

Required tools

- Tweezers

Spare parts required

- Felt washers
- Capillary filter

1. Stop sniffing mode of the leak detector (see Leak detector operating manual).
2. Using tweezers, remove the polluted felt washers.

   or

   Unscrew the capillary filter.
3. Replace the felt washers.

   or

   Replace the capillary filter (see chapter “Capillary filter replacement”, page 21).
   – For metal versions of capillary filters: Do not forget the seal!
4. Start sniffing mode of the leak detector (see Leak detector operating manual).
5. Hold your finger on the capillary filter.
   – You must be able to notice the vacuum.
6. Measure the gas throughput with the connected sniffer probe (see Leak detector operating manual).
7. Evaluate the result using the following table.

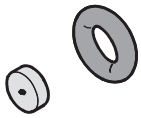
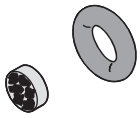
Sniffer probe	Gas throughput	Result
LP 403	≥ 54 sccm	Okay
LP 405 LP 410	< 54 sccm	Not okay
LP 503	≥ 20 sccm	Okay
LP 505 LP 510	< 20 sccm	Not okay

Tbl. 2: Evaluation of results of gas throughput measurement

Proceed as follows if the result is "Not okay":

1. Check the sinter filter. (see page 20)
2. Check the capillary filter again. (see page 19)
3. Consult the leak detector operating manual.

8.3 Check and replace the sinter filter

Visual condition	Condition
	not or only slightly polluted
	strongly polluted

Tbl. 3: Visual condition of the sinter filter parts

Check and replace the sinter filter

Required tool

- Crosshead screwdriver

Spare parts required

- Sinter filter
- Seal

1. Stop sniffing mode of the leak detector (see Leak detector operating manual).
2. Remove both crosshead screws.
3. Remove the sniffing tip.
4. Remove the sinter filter with seal.
5. Perform a visual inspection of the sinter filter for pollution:
6. In event of strong pollution, replace the sinter filter and seal.
7. Hold the sniffer tip in position and screw the crosshead screws tight.

8. Start sniffing mode of the leak detector (see Leak detector operating manual).
9. Hold your finger on the capillary filter.
   – You must be able to notice the vacuum.
10. Measure the gas throughput with the connected sniffer probe (see Leak detector operating manual).
11. Evaluate the result using the following table.

Sniffer probe	Gas throughput	Result
LP 403	≥ 54 sccm	Okay
LP 405 LP 410	< 54 sccm	Not okay
LP 503	≥ 20 sccm	Okay
LP 505 LP 510	< 20 sccm	Not okay

Tbl. 4: Evaluation of results of gas throughput measurement

Proceed as follows if the result is "Not okay":

1. Check the capillary filter. (see page 19)
2. Check the sinter filter again. (see page 20)
3. Consult the leak detector operating manual.

8.4 Capillary filter replacement

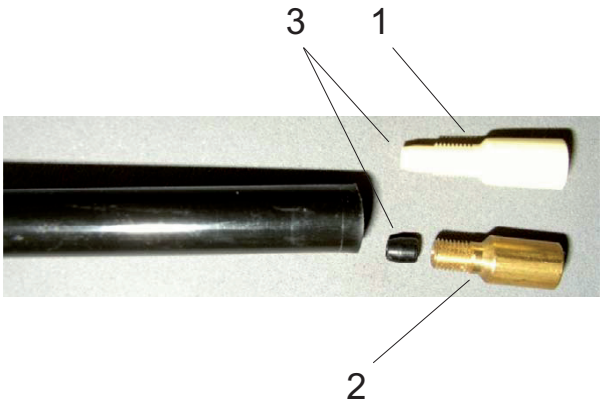


Fig. 5: Capillary filter

1 Plastic capillary filter
2 Metal capillary filter
3 Sealing ring, conical (black or white)



Fig. 6: Press the capillary out of the sniffing tip

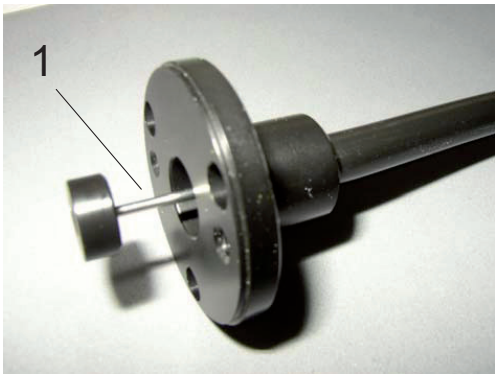


Fig. 7: Remove the capillary

1 Capillary

Capillary filter replacement

Required aids

- Small pin / nail (Ø approx. 0.5 mm)

Spare parts required

- Capillary filter

1. When changing from a metal capillary filter to the plastic capillary filter, ensure that the conical sealing ring of the metal capillary filter is removed first.
2. Press the capillary out of the sniffing tip using a small pin or nail.
   – The conical sealing ring that is located on the sniffing tip falls out.
3. Remove the capillary.
4. Remove the conical sealing ring.

9 Errors

Eliminating congestion of the sniffer probe

Congestion of the sniffer probe may have various causes.

1. Determine the cause of the congestion.
2. Eliminate the congestion according to the following table.

Cause	Elimination
Capillary filter congested	Replace the felt washers or the capillary filter.
Sinter filter congested	Check or replace the sinter filter.
Capillary congested in the sniffing tip	Replace the sniffing tip.
Sniffing tip damaged	Replace the sniffing tip.
Sniffing line damaged / congested	Replace the complete sniffer probe.

Tbl. 5: Troubleshooting

10 Shipping

⚠ WARNING

Risk of poisoning from contaminated products

Where products that contain harmful substances are shipped for maintenance or repair purposes, the safety of service personnel is at risk.

► Comply with the instructions for safe shipping.

Shipping the product safely

Decontamination subject to charge

Pfeiffer Vacuum decontaminates products not clearly declared "Free of contamination" at your expense.

1. Do not ship microbiological, explosive or radioactively contaminated products.
2. Observe the shipping guidelines for the participating countries and transport companies.
3. Highlight any potential dangers on the outside of the packaging.
4. Download the declaration of contamination. (Pfeiffer Vacuum Service).
5. Always enclose a completed declaration of contamination.

11 Disposal

⚠ WARNING

Health hazard through poisoning from toxic contaminated components or devices

Toxic process media result in contamination of devices or parts of them. During maintenance work, there is a risk to health from contact with these poisonous substances. Illegal disposal of toxic substances causes environmental damage.

- ► Take suitable safety precautions and prevent health hazards or environmental pollution by toxic process media.
- ► Decontaminate affected parts before carrying out maintenance work.
- ► Wear protective equipment.

⚠ CAUTION

Health hazard caused by environmentally hazardous substances

Products, operating fluid, electric components, calibration gas residues (for example from test leaks) or similar pose health hazards.

- ► Dispose of the environmentally hazardous substances in accordance with local regulations.
- ► Dispose of calibration gas and test leaks in accordance with local regulations.

Dividing components

- ► After disassembly, divide the components into the following categories with regard to disposal:
  - contaminated components **that have** contact with process gases
  - non-contaminated components **that have no** contact with process gases

Disposal of contaminated components that have contact with process gases

1. Dispose of the substances in a safe manner in accordance with the locally applicable regulations if the process gases used were contaminated, e.g. radioactive, toxic, caustic or a microbiological manner.
2. Observe the environment and safety provisions of the respective country.

Disposal of components that do not have contact with process gases

1. Separate the components according to their type of material:
   - electronic components
   - electrical components
   - battery and rechargeable batteries
   - mechanical components
2. Recycle the components.
3. Dispose of the substances in a safe manner according to locally applicable regulations.
4. Observe the environment and safety provisions of the respective country.

12 Service solutions from Pfeiffer Vacuum

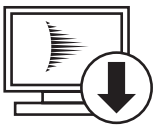
We offer first class service
Long vacuum component service life, coupled with low downtimes, are clear expectations that you have of us. We satisfy your needs with capable products and outstanding service.

We are consistently striving to perfect our core competence, service for vacuum components. And our service is far from over once you've purchased a product from Pfeiffer Vacuum. It often enough really just begins then. In proven Pfeiffer Vacuum quality, of course.

Our professional sales engineers and service technicians stand ready to provide hands-on support to you worldwide. Pfeiffer Vacuum offers a complete portfolio of service offerings, ranging from genuine spare parts right through to service agreements.

Take advantage of Pfeiffer Vacuum Service
Whether for preventative on-site service from our field service, fast replacement with as-new replacement products or repair in a Service Center close to you; you have various options for upholding your equipment availability. Detailed information and addresses can be found on our website in the Pfeiffer Vacuum Service section.

Advice on the optimum solution is available from your Pfeiffer Vacuum contact partner.
For quick and smooth handling of the service process, we recommend the following steps:

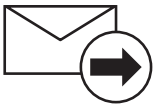


1. Download the current form templates.
   - Declaration of Service Request
   - Service Request
   - Declaration of Contamination

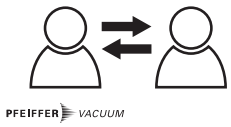
a) Dismantle all accessories and keep them (all external mounted parts as valve, inlet screen, etc.).
b) Drain the operating fluid/lubricant as necessary.
c) Drain the cooling medium as necessary.



2. Fill out the service request and the declaration of contamination.

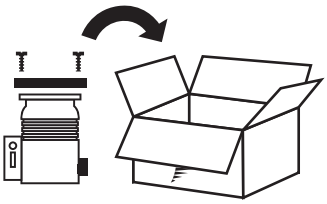


3. Send the forms via email, fax or post to your local Service Center.

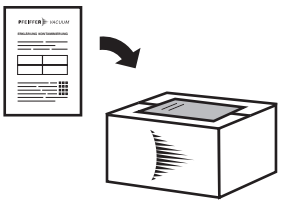


4. You will receive a response from Pfeiffer Vacuum.

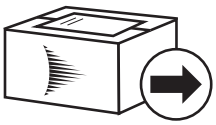
Sending of contaminated products
No units will be accepted if they are contaminated with micro-biological, explosive or radioactive substances. If products are contaminated or if the declaration of contamination is missing, Pfeiffer Vacuum will contact the customer before starting maintenance. In addition, depending on the product and the level of contamination **additional decontamination costs** may be required.



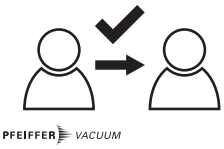
5. Prepare the product for transport in accordance with the details in the declaration of contamination.
a) Neutralize the product with nitrogen or dry air.
b) Close all openings with airtight blank flanges.
c) Seal the product in appropriate protective film.
d) Only pack the product in suitable, stable transport containers.
e) Observe the applicable transport conditions.



6. Affix the declaration of contamination to the **outside** of the packaging.



7. Then send your product to your local Service Center.



8. You will receive a confirmation message/a quotation from Pfeiffer Vacuum.

For all service orders, our General Terms and Conditions of Sales and Supply and General Terms and Conditions of Repair and Maintenance apply to vacuum equipment and components.

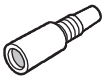
13 Ordering information

13.1 Ordering parts

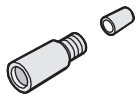
Ordering spare parts, accessories or optional components

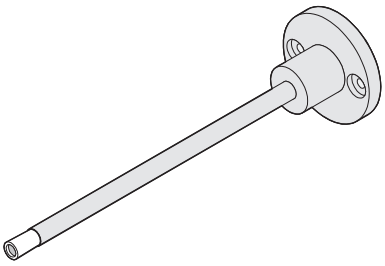
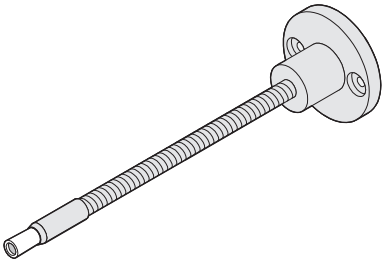
► Always specify the following details when ordering spare parts, accessories or optional components:
- all details according to the rating plate
- description and order number according to the parts list

13.2 Spare parts

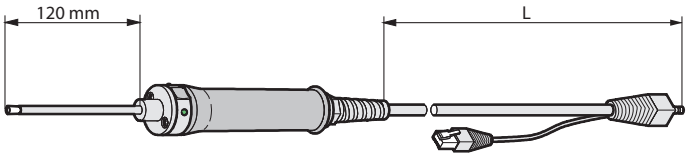
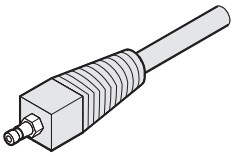
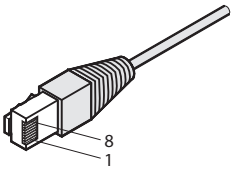
Spare part	Designation	Packing size	Order number
	Capillary filter as plastic version for standard conditions	5 units	BN 846 392 -T
	Felt washers for the capillary filter	50 units	BN 846 099 -T
	Sinter filter (with seal)	5 units	BN 845 979 -T

13.3 Optional components

Capillary filter	Designation	Packing size	Order number
	Capillary filter in a metal version for tough conditions (with seal)	1 unit	BG 449 140 -T

Sniffing tips	Designation	Packing size	Order number
	Sniffing tip (rigid) TP 312 (120 mm length)	1 unit	BG 449 215 -T
	Sniffing tip (rigid) TP 385 (385 mm length)	1 unit	BG 449 216 -T
	Sniffing tip (flexible) TF 312 (120 mm length)	1 unit	BG 449 217 -T
	Sniffing tip (flexible) TF 385 (385 mm length)	1 unit	BG 449 218 -T

14 Technical data and dimensions

Parameter	LP 403	LP 405	LP 410	LP 503	LP 505	LP 510
Length "L" of the sniffing line	3 m	5 m	10 m	3 m	5 m	10 m
						
Gas throughput (approx.)	54 – 66 sccm			20 – 30 sccm		
Permissible storage temperature	0 – 40 °C					
Connection of the sniffing line to the leak detector	Sealing coupling (Quick fitting coupling Trigress type 20, casted) 					
Electrical connection to the leak detector	RJ-45 plug 					

Pin assignment of the RJ45 plug

Pin	Assignment
1	VM +
2	VM -
3	suppress
4	leak
5	ready
6	+24 V DC
7	unassigned
8	unassigned

Tbl. 6: Pin assignment of the RJ45 plug

Sniffing tips available

Sniffing tip	Standard/Option	Characteristic
TP 312	Standard	rigid, 120 mm length
TP 385	Option	rigid, 385 mm length
TF 312	Option	flexible, 120 mm length
TF 385	Option	flexible, 385 mm length

Tbl. 7: Sniffing tips available

The ordering data is specified in the chapter "Ordering information". (see page 28)

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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info@pfeiffer-vacuum.de

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