OPERATING INSTRUCTIONS

EN

Translation of the original instructions

STANDARD SNIFFER PROBE

PFEIFFER VACUUM

Table of contents

1 About this manual

1.1 Validity

This operating manual is for customers of Pfeiffer Vacuum. It describes the functioning of the designated product and provides the most important information for safe use of the unit. The description follows applicable EU guidelines. All information provided in this operating manual refers to the current state of the product's development. The documentation remains valid as long as the customer does not make any changes to the product.

Up-to-date operating instructions can also be downloaded from www.pfeiffer-vacuum.com.

This manual covers products with the following part numbers:

SNCxExTx

1.2 Conventions

1.2.1 Safety instructions

Operating manual safety instructions Pfeiffer Vacuum are based on the UL, CSA, ANSI Z-535, SEMI S2, ISO 3864 and DIN 4844 certification standards. This document describes the following information and danger levels:

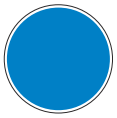
NOTICE
Command or note Command to perform an action or information about properties, the disregarding of which may result in damage to the product.

1.2.2 Instructions in the text

➔ Work instruction: here you have to do something.

1.2.3 Pictographs

Warning of a displayed source of danger in connection with operation of the unit or equipment



Command to perform an action or task associated with a source of danger, the disregarding of which may result in serious accidents

2 Description

2.1 Product identification

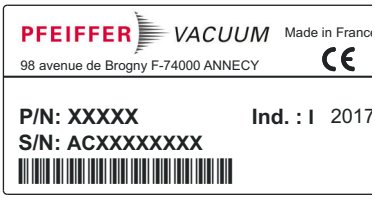
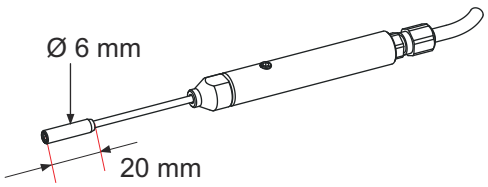


Fig. 1: Label identification

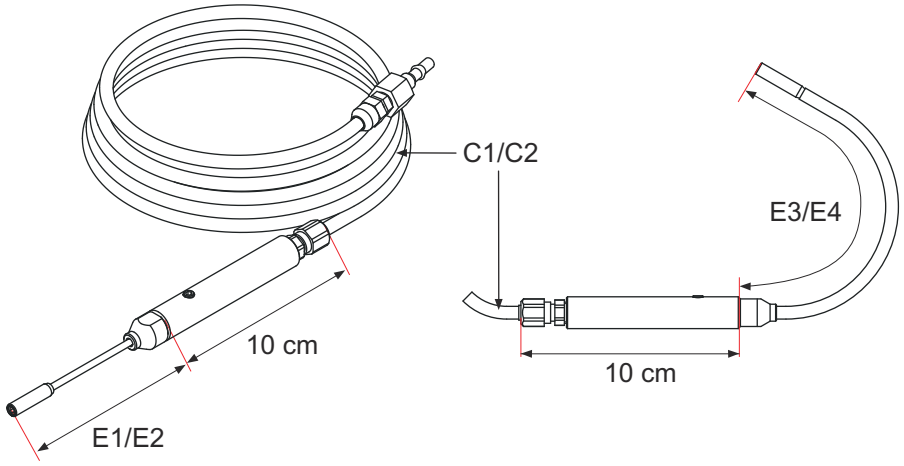
P/N	Part number
S/N	Serial number
Ind	Index

2.2 Dimensions

Dimensions of the sniffer probe end, whatever the sniffer probe model is.



Probe ref. SNCxExT1



Piping Cx (1)		Nozzle Ex		
C1	5 m	Rigid	E1	9 cm
			E2	30 cm
		Flexible	E3	15 cm
			E4	45 cm

Table 1:

Piping Cx (1)		Nozzle Ex		
C2	10 m	Rigid	E1	9 cm
			E2	30 cm
		Flexible	E3	15 cm
			E4	45 cm

Table 2: (1) Flexible PVC exterior ø 6 mm

2.3 Technical data

	Sniffer probe with rigid nipple (part number SNCxE1Tx & SNCxE2Tx)	**Sniffer probe with flexible nipple (part number SNCxE3Tx & SNCxE4Tx)**
Tracer gas concentration in the air	5 ppm	
Maximum flow rate taken by the probe	60 ± 10 sccm (1 mbar·l/s)	≈ 100 sccm
	Note : A flow rate variation in the sniffer probe does not modify the sensitivity but only the response time. ↗ Flow = ↘ Response time	
Leak rate (Q) read on the leak detector during a measurement of the He in the air without correction factor	$Q = 5 \cdot 10^{-6}$ mbar·l/s	$5 \cdot 10^{-6}$ mbar·l/s ≤ Q ≤ 10^{-5} mbar·l/s
Correction factor (Cor) to apply in order to read a leak rate in the leak detector of de $5 \cdot 10^{-6}$ mbar·l/s	1	0.5 ≤ Cor ≤1
Note	-	Sniffer probe not designed for precise measurements
Maximum working pressure recommended	Atmospheric pressure + 0.5 bar	

3 Connection

➔ Connect the sniffer probe to the quick connector placed on the leak detector : please refer to the ***Operating instructions*** of the detector to locate it.

4 Use

4.1 Complying the use with the aim

- The long distance sniffer probe is aimed at getting connected to the leak detector. It allows the spotting of a possible leak on a part or on an installation that has to be tested.
- The standard long distance sniffer probe can be used with all the ASM xxx/ASI xx leak detectors, except in special cases.
- Special case: the flexible sniffer probe (P/N. SNCxE3Tx and SNCxE4Tx) cannot be used with the ASM 102 S, ASM 310, ASM 390 and ASM 392.
- Any other use is inappropriate to the product's aim.

4.2 Precautions

- Do not step on the probe or flatten it.
- The flexible nipple must be handled complying with the instructions below :
  - Do not curve it completely. (ref. 1)
  - Do not bend it (ref. 2 and 3)

1 2 3

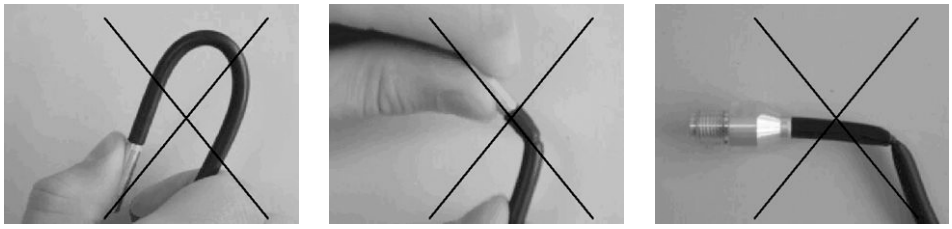
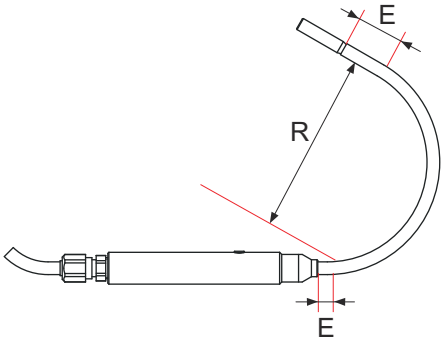
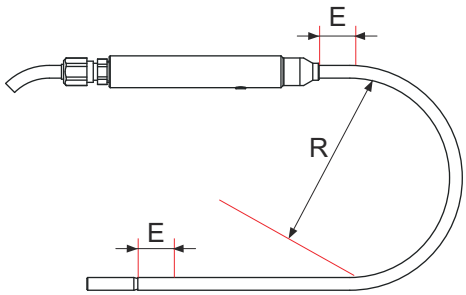


Fig. 2: Wrong uses of the flexible nipple

The sniffer probe nipple can be bent if necessary but you should respect a minimum radius of curvature (ref. 4 and 5).

Sniffer probe with a flexible nipple of 15 cm (Part number SNCxE3Tx)	Sniffer probe with a flexible nipple of 45 cm (Part number SNCxE4Tx)
	
R > 5 cm / E > 2 cm : do not twist or bend the E section.	

In case of the ASM 142 S use, it is necessary to perform a calibration of the detector in sniffing mode before using the detector.

4.3 Procedure

➔ Start a sniffing test: Please refer to the ***Operating instructions*** of the detector concerning the setting and the use process.

5 Maintenance

Unplug the sniffer probe from the leak detector for all maintenance operation.

5.1 Filter replacement

5.1.1 Tools set

- Hexagonal male key of 2.5 mm
- Flat pliers
- Lint-free cloth
- Alcohol
- Torque wrench (1 N·m)

5.1.2 Procedure

➔ With the 2.5 hexagonal male key, losen the screw placed at the end of the sniffer probe (ref. A) .

➔ Remove the old filter. Put the new filter into the screw (ref. B).

➔ Position this assembly straight up and screw the nipple of the sniffer probe (ref. C) : torque < 1 N·m

➔ Tighen the screw so that it is totally inside the nipple: a few theads should remain visible (ref. D).

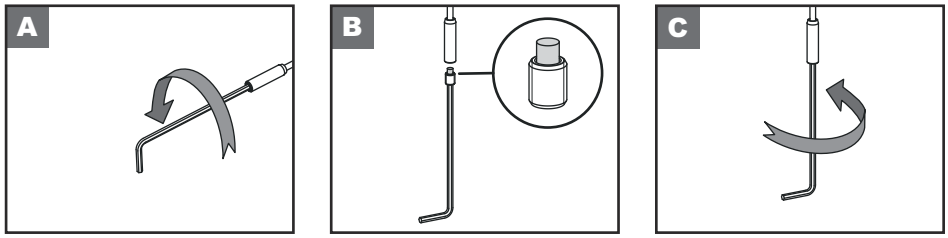


Fig. 3: Filter replacement

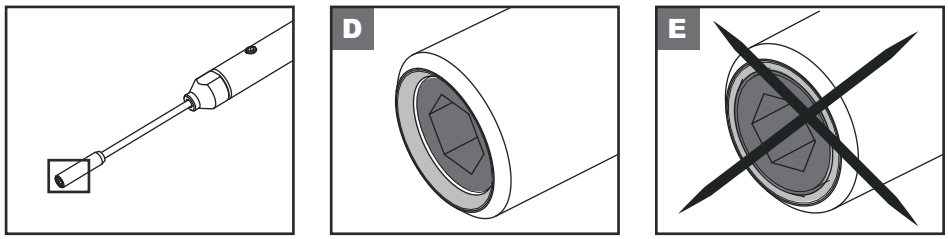


Fig. 4: Filter positionning

D	Correct positioning: screw inside the nipple
E	Incorrect positioning: screw at the limit of the nipple

When changing the filter, it is recommended to clean the needle as well as the nipple (sniffer probe with rigid nipple only):

➔ Remove the needle with a flat pliers.

➔ Clean delicately the needle with alcohol and a lintfree cloth.

➔ Clean the rigid nipple with alcohol and compressed dry air.

➔ Put back the needle without tightening it.

➔ Put back the filter with its screw: torque < 1 N·m.

5.2 Needle replacement

NOTICE

For any needle replacement in a sniffer probe, always use a new needle with the same diamete than the old one.

In order to regulate the sniffer probe flow rate, it can be equipped with 2 differents types of needle: ø 0.30 mm or 0.35 mm. This selection is made at the factory and is permanent.

How to identify the installed needle in the sniffer probe?

➔ The shape of the needle is different.
➔ The body of the sniffer probe is marked.

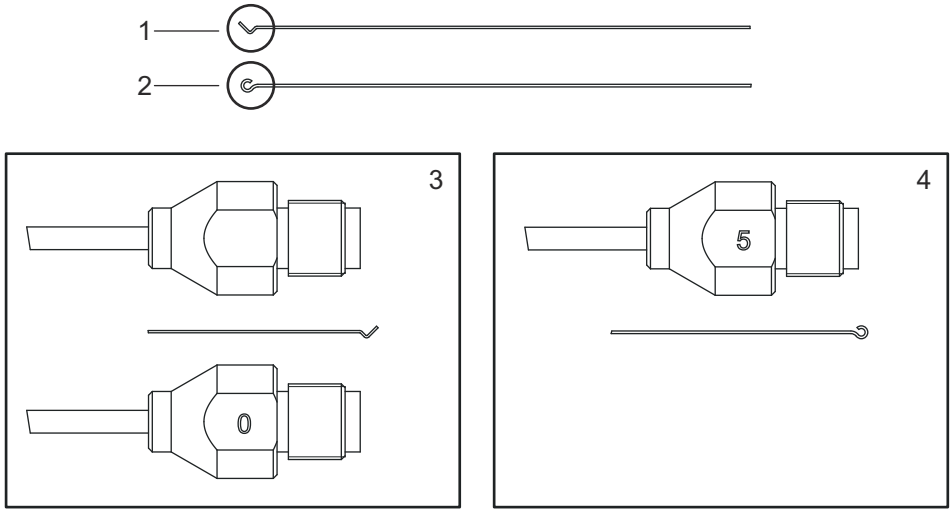


Fig. 5: Needle type identification

1	Needle ø 0.30 mm
2	Needle ø 0.35 mm
3	Sniffer probe equipped with the ø 0.30 mm needle Body without engraving or "0" engraved
4	Sniffer probe equipped with the ø 0.35 mm needle Body engraved "5"

5.2.1 Tools set

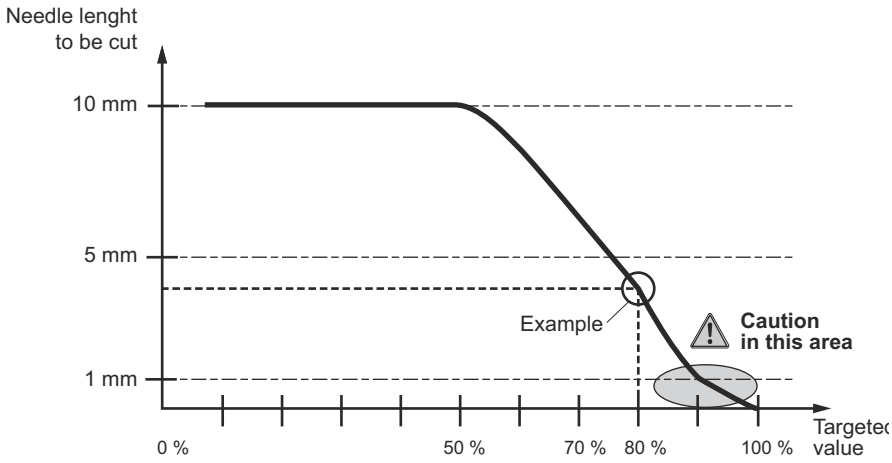
- Hexagonal male key of 2.5 mm
- Flat pliers
- Lint-free cloth
- Alcohol
- Torque wrench (1 N·m)

5.2.2 Procedure

With this type of probe, it is normally not necessary to change the needle.
3 methods can be used for the new needle adjustment:

1	Flow method use	Recommended methods
2	Standard sniffer probe use	
3	Old needle use	

Precautions to cut the needle :
It is necessary to cut the needle progressively, especially when near the target value, upon measurement result obtained and the targeted value researched: refer to the figure below.



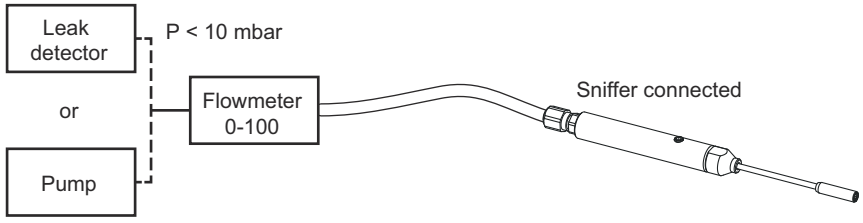
Example:

- target value = 60 sccm
- value displayed on the flowmeter = 48 sccm (= 80 % of the target value)

➔ Remove the needle from the nozzle and cut 4 mm from the straight end.

1st method : Flowmeter use in order to measure the flow rate in the sniffer probe

Assembling to realize:



➔ Cut the new needle to 85 mm. Prepare it (see 3rd method, A)
  – Use of the old needle as reference, (see 3rd method, B) and place it correctly in the nozzle (*see 5.3)* .
  – Depending on the measurement result, cut the needle according to the precautions indicated below. Correctly put the needle back in the nozzle.

➔ Repeat these operations until the flowmeter displays the value of the maximum flow rate taken by the sniffer probe (60 ± 2 sccm).

➔ If the message “sniffer probe clogged” appears on the control panel display during these adjustments (*see 5.4)* .

2nd method: Standard sniffer probe use as a reference

This mehod required keeping a new sniffer probe as standard sniffer probe.

➔ Do an auto-calibration in sniffing mode with the standard sniffer probe.

➔ Do a measure of the He in the air with the standard sniffer probe.

➔ Cut the new needle to 85 mm. Prepare it (see 3rd method, A)

➔ Use of the old needle as a reference, (see 3rd method, B) and place it correctly in the nozzle (*see 5.3)* .

➔ In a no Helium 4 polluted environment, do a measure of the helium in the air with the sniffer probe to adjust.

➔ Depending on the measurement result, cut the needle according to the precautions indicated above. Correctly place the needle back in the nozzle.

➔ Repeat these operations until the display corresponds to the display with the standard sniffer probe concerning the Helium 4 in the air.

➔ If the message “sniffer probe clogged” appears on the control panel display during these adjustments (*see 5.4)* .

3rd method : Use of the old needle as a reference

With this method, the uncertainty about the maximum flow rate taken by the sniffer probe is more imporant:

- Maximum flow rate taken: 60 ± 10 sccm
- Leak rate (Q): $4 \cdot 10^{-6}$ mbar·l/s < Q < $6 \cdot 10^{-6}$ mbar·l/s.

➔ Take out the filter *(see 5.2)*

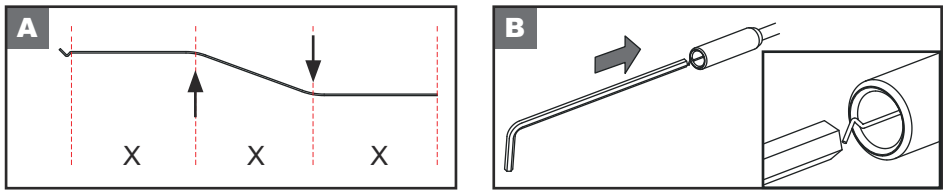
➔ With a flat pliers, take the original needle out.

➔ Cut the new needle at the same length of the original one.

➔ Bend the needle as shown in the picture (ref. A).

For the ø 0.35 mm needle, the bending will be less marked.

➔ Put the needle in the nipple, the crooked end towards the outside (ref. B) and push it in with a 2.5 mm hexagonal key to stop.



➔ Put the filter back.

5.3 O'ring installation

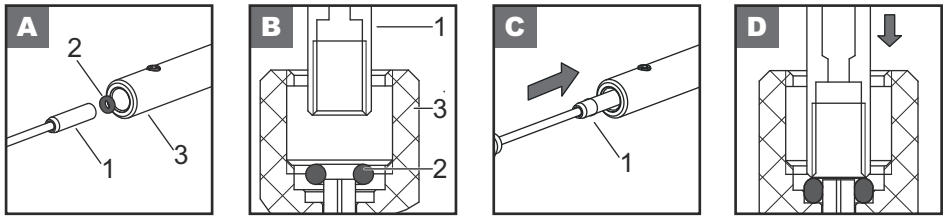
➔ If the O’ring (2) come’s out of the probe when unscrewing the nipple (1): you should put it back (ref. A).

➔ Place the O’ring (2) in the sniffer body (3) (ref. B).

➔ Push the O’ring using the nipple (1) of the sniffer probe (ref. C).

➔ The O’ring is correctly place on the nipple (ref. D).

➔ Screw the nipple on the probe.



5.4 "Sniffer probe clogged" message

A “Sniffer probe clogged” message could appear on the control panel LCD display or be announced by the digital voice: the leak detector compares the leak rate read on the detector to the sniffer probe clogged reject threshold. (Refer to the ***Operating instructions*** ‘’Threshold setting’’).

During the needle adjustment, this message could appear without the sniffer probe necessarily being clogged: this is why the needle length is so important.

For further details, please consult the ***Operating instructions*** delivered with your leak detector.

Block the sniffer probe end from time to time with a finger to check that the leak rate goes down. If it doesn't, the sniffer probe may be clogged.

5.5 Adaptor for calibrated leak

5.5.1 Part number

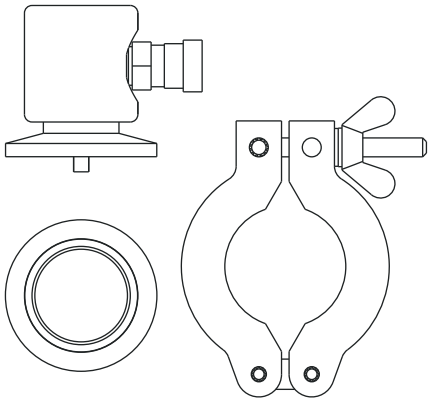


Fig. 6: Adaptor for calibrated leak

Description	P/N
Adaptor for DN 16 ISO KF calibrated leak	110715
Adaptor for DN 25 ISO KF calibrated leak	110716

5.5.2 Use

A special adaptator (1), for SNCxExTx calibrated leak only (2), have been designed to ensure a good connection as well as repetitive and reliable measurement of calibrated leak with a sniffer probe (3).

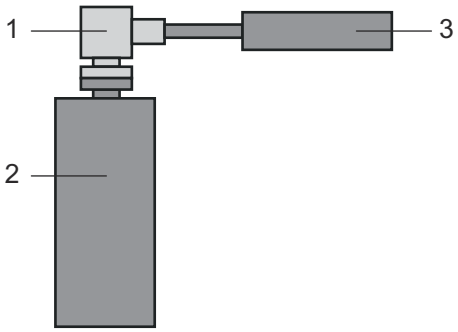


Fig. 7: Positionning of the adaptor

With the use of the adaptor for calibrated leak:
Read value on the detector = the detected calibrated value + the leak value of the helium 4 in the air.

6 Disposal

WARNING

Environmental protection

The product or its components must be disposed of in accordance with the applicable regulations relating to environmental protection and human health, with a view to reducing natural resource waste and preventing pollution.

7 Service

Pfeiffer Vacuum offers first-class customer service!

- On-Site maintenance for many products
- Overhaul/repair at the nearby Service Location
- Fast replacement with refurbished exchange products in mint condition
- Advice on the most cost-efficient and quickest solution

Detailed information, addresses and forms at: **www.pfeiffer-vacuum.com (Service)**.

Overhaul and repair at the Pfeiffer Vacuum Service Center

The following general recommendations will ensure a fast, smooth servicing process:

➔ Fill out the "Service Request/Product Return" form and send it to your local Pfeiffer Vacuum Service contact.

➔ Include the confirmation on the service request from Pfeiffer Vacuum with your shipment.

➔ Fill out the declaration of contamination and include it in the shipment (mandatory!). The Declaration of contamination is valid for any product/device including a part exposed to vacuum.

➔ Dismantle all accessories and keep them.

➔ Close all the flange opening ports by using the original protective covers or metallic airtight blank flanges for contaminated devices.

➔ If possible, send the pump or unit in its original packaging.

Sending contaminated pumps or devices

No devices will be accepted if they are contaminated with micro-biological, explosive, or radioactive substances. "Hazardous substances" are substances and compounds in accordance with the hazardous goods regulations (current version).

➔ Neutralize the pump by flushing it with nitrogen or dry air.

➔ Close all openings airtight.

➔ Seal the pump or device in suitable protective film.

➔ Return the pump/device only in a suitable and sturdy transport container and send it in while following applicable transport conditions.

Pump or device returned without declaration of contamination form fully completed and/or not secured in suitable packaging will be decontaminated and/or returned at the shipper’s expense.

Exchange or repair

The factory operating parameters are always pre-set with exchange or repaired devices. If you use specific parameters for your application, you have to set these again.

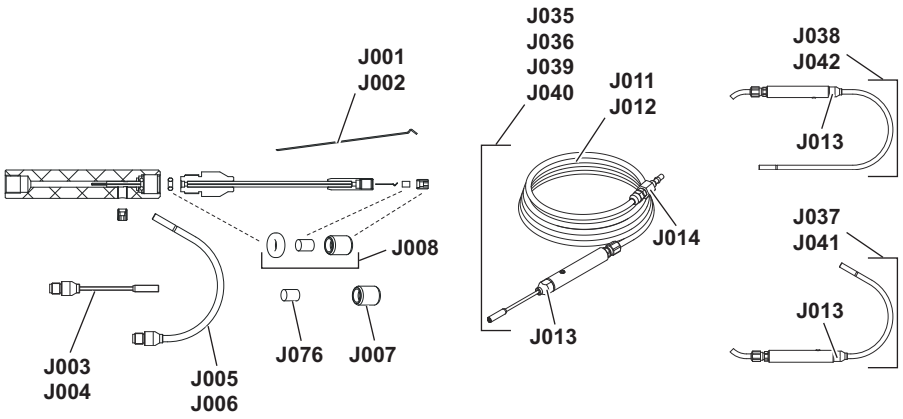
Service orders

All service orders are carried out exclusively according to our general terms and conditions for the repair and maintenance, available on our website.

8 Spare parts

NOTICE

Some probe's parts are very small.
Handle them with care.



Ref	Description	P/N	Qty
J001	Needle for LDS Probe - D 0.3 mm	072606	1
J002	Needle for LDS Probe - D 0.35 mm	A461716	1
J003	Nozzle, Short Rigid - 2000 Sniffer	108242S	1
J004	Nozzle, Long; for He Probe	108243S	1
J005	Nozzle, Short Flexible - 2000 Sniffer	108883S	1
J006	Nozzle, Long Flexible - 2000 Sniffer	108884S	1
J007	HC Screw M5-6 - 2000 Sniffer	A459725	1
J008	5 Filters/2 Screws/2 O'Rings - LDS Probe	A459858	1
J011	Tubing, LDS - 5 m	072300	1
J012	Tubing, LDS - 10 m	A459882	1
J013	Male Connector 4/6 mm - 1/8 BSPT	083391	1
J014	Female Connector 1/8 BSPT - LDS Tube	067843	1
J034	10 m Extension - LDS Probe	090216	1
J035	Rigid Sniffer 5 m/9 cm	SNC1E1T1	1
J036	Rigid Sniffer 5 m/30 cm	SNC1E2T1	1
J037	Flexible Sniffer 5 m/R 15 cm	SNC1E3T1	1
J038	Flexible Sniffer 5 m/R 45 cm	SNC1E4T1	1
J039	Rigid Sniffer 5 m/9 cm	SNC2E1T1	1
J040	Rigid Sniffer 5 m/30 cm	SNC2E2T1	1
J041	Flexible Sniffer 5 m/R 15 cm	SNC2E3T1	1
J042	Flexible Sniffer 10 m/R 45 cm	SNC2E4T1	1
J076	Sniffer Filter Stone	067722	1

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.

Ed04- Date 2018/02 - P/N:121780OEN

Are you looking for a perfect vacuum solution? Please contact us:

Pfeiffer Vacuum GmbH
Headquarters • Germany
T +49 6441 802-0
info@pfeiffer-vacuum.de

www.pfeiffer-vacuum.com

PFEIFFER VACUUM