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USE AND CARE OF THE LONG DISTANCE SNIFFER PROBE

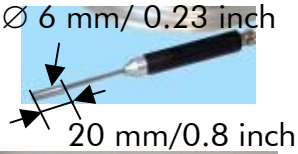
This document concerns the SNCxExTx long distance sniffer probes.

⚠ For all service operations, the long distance sniffer probe should be disconnected from the helium leak detector.

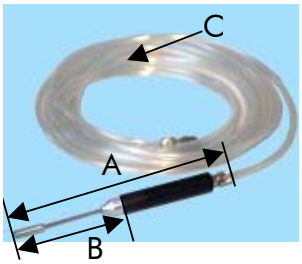
⚠ The parts involved are small : be careful not to loose them.

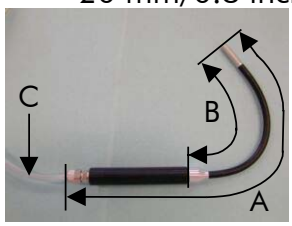
DIMENSIONS

Dimensions of the sniffer probe end, for all sniffer probe models



To calcultate the complete size of the sniffer probe, add (A) and (C) depending on the sniffer probe model.





Example : sniffer probe p/n SN**C1E1**T1
=
gun (A) 19 cm + tubing (C) 5 m
gun (A) 7.5 inch + tubing (C) 197 inch

End (B)		**Sniffer probe part number**	**Gun (A)**
Rigid	9 cm/3.5 inch	SNCx**E1**Tx	**19 cm/7.5 inch**
	30 cm/11.8 inch	SNCx**E2**Tx	**40 cm/15.7 inch**
Flexible	15 cm/5.9 inch	SNCx**E3**Tx	**25 cm/9.8 inch**
	45 cm/ 17.7 inch	SNCx**E4**Tx	**55 cm/21.6 inch**

	Sniffer probe part number	**Tubing (C)**
PVC flexible (external ∅ : 6 mm/0.23 inch)	SN**C1**ExTx	**5 m/197 inch**
	SN**C2**ExTx	**10 m/394 inch**

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TECHNICAL CHARACTERISTICS

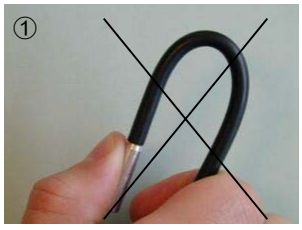
	Sniffer probe with rigid nipple (part number SNCxE1Tx and SNCxE2Tx)	Sniffer probe with flexible nipple (part number SNCxE3Tx and SNCxE4Tx)
Helium concentration in the air	5 ppm	
Maximum flow taken by the probe	60 ± 2 sccm (1 mbar.l/s)	≈ 100 sccm
	Note A flow variation in the sniffer probe does not modify the sensitivity but ony the response time. ↗ Flow = ↘ Response time	
Leak flow (Q) read on the leak detector during a measurement of the He in the air without correction factor	$Q = 5.10^{-6}$ mbar.l/s	5.10^{-6} mbar.l/s ≤ Q ≤ 10^{-5} mbar.l/s
Correction factor (Cor) to apply in order to read a leak flow in the leak detector of 5.10^{-6} mbar.l/s	1	0.5 ≤ Cor ≤ 1
Note		⚠ **Sniffer probe not designed for precise measurements**

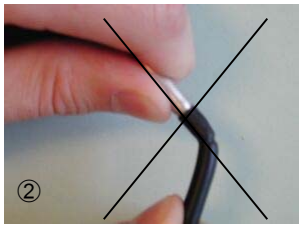
USE PRECAUTIONS WITH THE FLEXIBLE SNIFFER PROBE

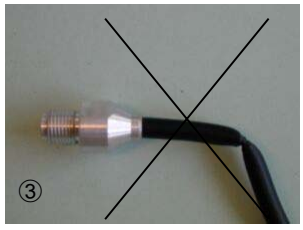
⇨ Do not step on the probe or flatten it.

⇨ The nipple should not be curved (ref. ①) without respect the instructions below.

⇨ The nipples should not be bent as shown below (ref. ② and ③).







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

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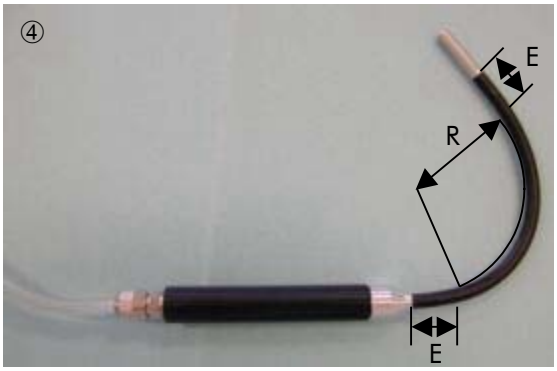
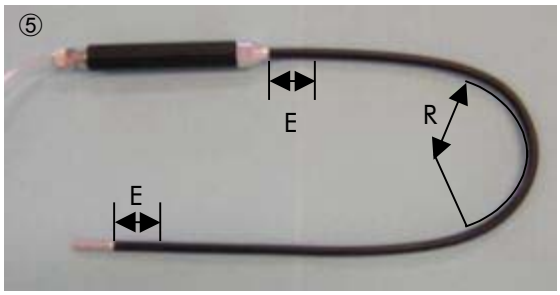
Sniffer probe with a flexible nipple of 15 cm (part number SNCxE3Tx)	Sniffer probe with a flexible nipple of 45 cm (part number SNCxE4Tx)
	
R > 5 cm (2 inch)	**E > 2 cm (1 inch) : do not twist/bend the E section**

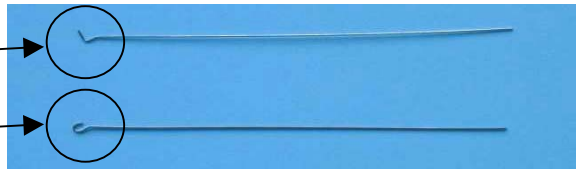
FLOW ADJUSTMENT

In order to adjust the flow inside the sniffer probe, it comes equipped with 2 needle types : ∅ 0.30 mm ou 0.35 mm. This choice is done in factory and it is permanent.

How to identify the needle set in your snifffer probe ?

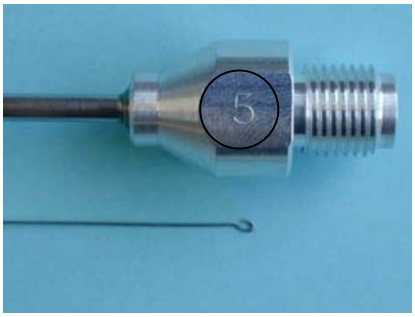
⇨ The needle shape is different :

- ∅ 0.30 mm needle
- ∅ 0.35 mm needle



⇨ The sniffer probe nozzle is marked : :

- Sniffer probe equipped with a ∅ 0.30 mm needle has no mark or is marked "0".



- Sniffer probe equipped with a ∅ 0.35 mm needle is marked "5".

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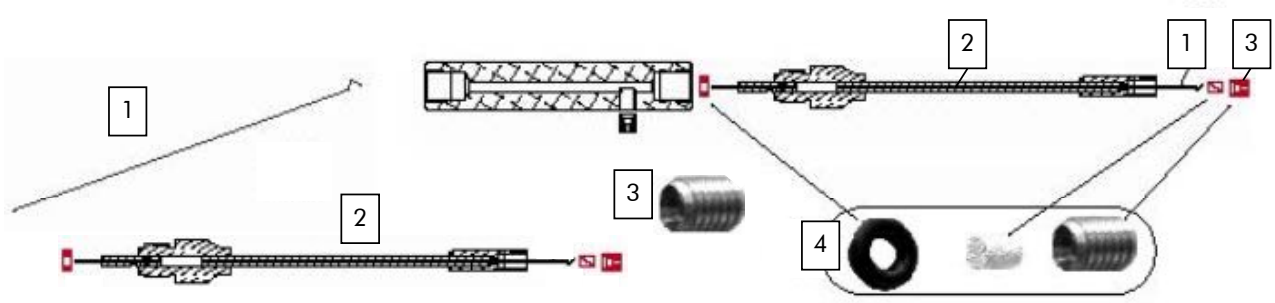
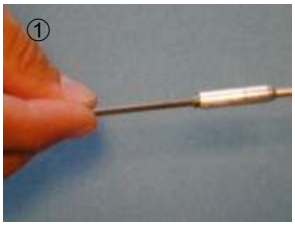
AVAILABLE SPARE PARTS

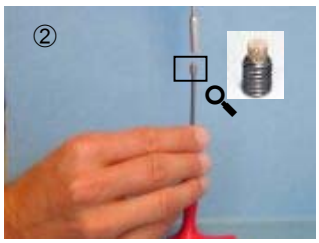


Reference	Description	Part number
1	∅ 0.30 mm needle	072606
	∅ 0.35 mm needle	A461716
2	Rigid nozzle of 9 cm (*)	108242S
	Rigid nozzle of 30 cm (*)	104243S
	Flexible nozzle of 15 cm (*)	108883S
	Flexible nozzle of 45 cm (*)	108884S
	(*) (delivered with the suitable needle not cut)	
3	Screw alone	A459725
4	Kit for sniffer probe with 5 filters, 2 O'rings and 2 screws	A459858

FILTER EXCHANGE

With the 2.5 Allen key, remove the screw at the end of the sniffer probe (ref. ①).
Take out the old filter. Put the new filter in the port (ref. ②).
Hold this assembly straight up and screw on the nipple of the sniffer probe (ref. ② and ③) : torque < 1 N.m
Install the screw so that it is totally inside the nipple : you should see a few threads (ref. ④ and ⑤).





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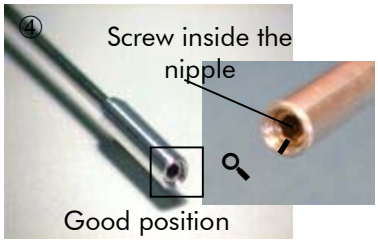
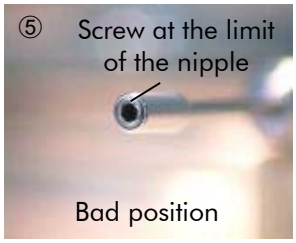




When you change the filter, we recommend cleaning the needle and the nipple (sniffer probe with rigid nipple only) :

- Take out the needle with needlenose pliers.
- Clean delicately the needle with alcohol and a lint-free cloth..
- Clean the rigid nipple with alcohol and compressed dry air.
- Put back the needle.
- Put back the filter with its screw : torque < 1 N.m.

NEEDLE REPLACEMENT

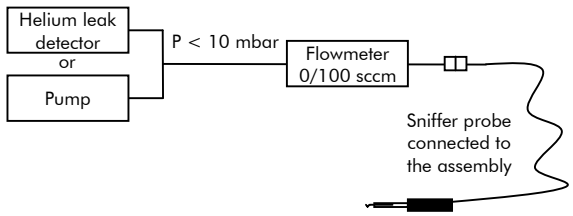
With this kind of sniffer probe, it is normally not necessary to change the needle.

⚠ **For every needle replacement in a sniffer probe, put a new needle with the same diameter as the old needle.**

3 methods can be used for the new needle adjustment :

① flowmeter use
② standard sniffer probe use
③ old needle use

Recommended methods

① **Flowmeter use in order to measure the flow in the sniffer probe**	② **standard sniffer probe use as reference**
Assembly to do :  	This method requires keeping a new sniffer probe as a standard 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/3.35 inch. Prepare it (see below "③ Use of the old needle as a reference ", picture ③) and put it correctly in the nozzle (see "Needle exhange" §).	

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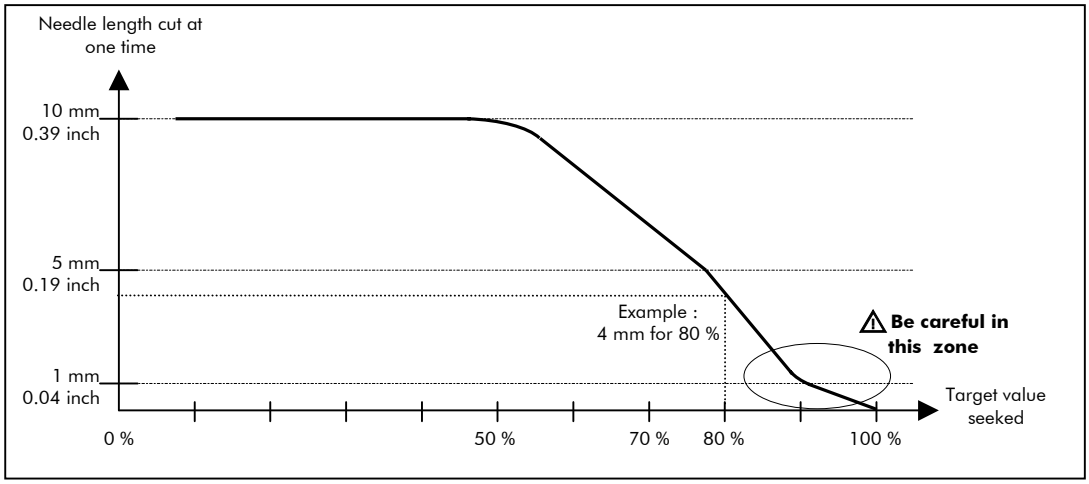
① **Flowmeter use (cont.)**	② **standard sniffer probe use (cont.)**
	In a no helium polluted environment, do a measure of the helium in the air with the sniffer probe to adjust.
Depending on the measure result, cut the neddle according to the precautions indicated below. Put back correctly the needle in the nozzle.	
Repeat these operations until the flowmeter displays the value of the maximum flow taken by the sniffer probe (60 ± 2 sccm).	Repeat these operations until the display corresponds to the display with the standard sniffer probe in the helium of the air.
If the message "sniffer probe clogged" appears in the control panel display during these adjustments, please refer to ""Sniffer probe clogged" message" §.	

Precautions to cut the needle

It is necessary to cut small amounts of the needle, especially when we are near the target value : 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.

③ Use of the old needle as a reference

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

- Maximum flow taken 60 ± 10 SCCM
- Leak flow (Q) 4.10^{-6} mbar.l/s < Q < 6.10^{-6} mbar.l/s.

Take out the filter (see "Filter exchange" §).

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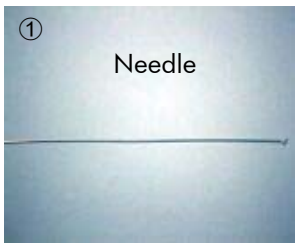
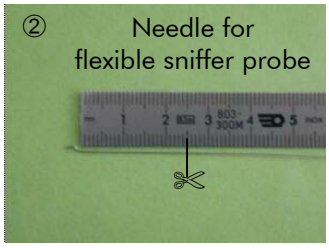
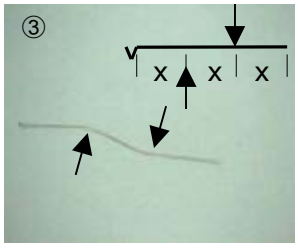
With needlenose pliers, take out the original needle.
Put the new needle (ref. ①) and cut to **the same length** as the original needle.

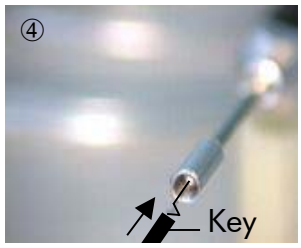
Note : for the flexible sniffer probe (SNCxE3Tx and SNCxE4Tx), the needle length should be 2.5 cm (ref. ②).

Bend the needle as shown in the picture ③.
Put the needle in the nipple, the crooked end to outside (ref. ④) and push it in with a 2.5 allen key to stop.
Put back the filter.



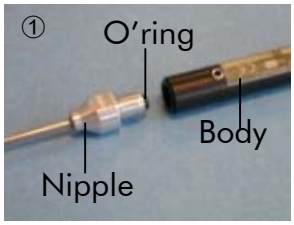


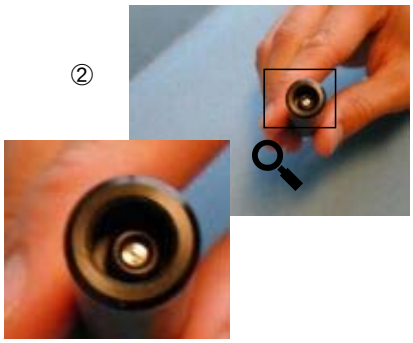


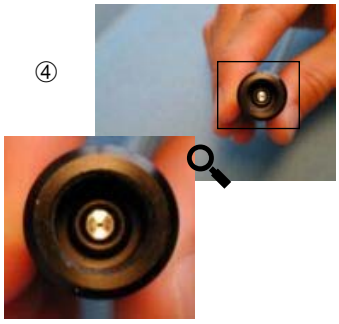


O'RING INSTALLATION

When you unscrew the nipple from the probe, it is possible for the o'ring to come out with the nipple : you should put it back (ref. ①).
Place the o'ring on the nipple of the aspiration tube in the sniffer body (ref. ②).
Push the o'ring with the nipple of the sniffer probe (ref. ③).
The o'ring is correctly placed on the nipple (ref. ④).
Screw on the nipple of the sniffer probe.







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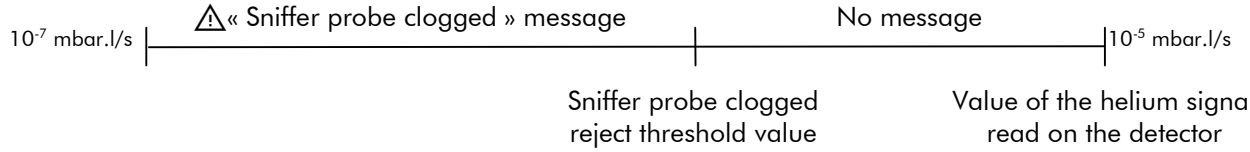
"SNIFFER PROBE CLOGGED" MESSAGE

A "Sniffer probe clogged" message could appear on the control panel LCD display or be announced by the voice synthesis: the leak detector compares the helium signal read on the detector to the sniffer probe clogged reject threshold.



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

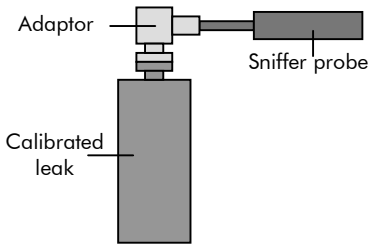
For more details, please consult the user's manual delivered with your leak detector.

Advice Block the sniffer probe end from time to time with a finger to check that the helium signal goes down. If not, the sniffer probe may be clogged.

ADAPTOR FOR CALIBRATED LEAK

Description	Part number
Adaptor for DN 16 calibrated leak	110715
Adaptor for DN 25 calibrated leak	110716

Special adaptors for calibrated leaks have been designed to ensure a good connection and repetitive and reliable calibration with a sniffer probe.



⚠ With the adaptor for calibrated leaks use :

Value read on the leak detector =
Calibrated leak value + value of the helium in the air

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