



Needle Destruction Device

NeedleSmart™ Professional
User Manual - Revision 1
Original Version

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Product Description

The NeedleSmart™ Professional (NS Pro) device employs advanced technology to process and melt hypodermic sharps or needles, rendering them non-sharp and suitable for safe disposal in accordance with local practices.

Warnings

- This device is intended for use by responsible users only, and is not to be used by children.
- Do NOT insert foreign bodies/fluids into the device - see **Limitations** and **Needle Range**.
- Do NOT discharge contents of the syringe into the device.
- Do NOT use in Potentially Explosive Areas and Environments.
- Do NOT incinerate or short circuit the device.
- In the event of fire, do NOT extinguish the device with water.
- Do NOT submerge the device in liquids.
- Only use the included charger, or replacements supplied by NeedleSmart Ltd., to charge the device.
- When you first receive your NS Pro device, it will be configured for compatibility with an inventory of needles or sharps that you have told us that you will process. It is **IMPORTANT** that needles or sharps of a smaller or larger size (length, diameter or gauge) are not introduced to the NS Pro device without prior consultation with, and approval from, NeedleSmart Ltd.
- The device contains no user-serviceable parts, excluding the replaceable quartz tube. The device does not require any form of disassembly during standard maintenance procedures.

Limitations

- The device must not be connected to a mains power supply while in use;
- The device must not be used while connected to a mains power supply;
- Not suitable for the disposal of flammable, radioactive, cytostatic or cytotoxic materials;
- Not suitable for use in areas where a high magnetic field is present;
- Operating temperature: +5°C to +40°C

Needle Range

The NS Pro device is compatible for use with the following range of commonly used needle configurations:

If your NS Pro device is configured for use with **standard** (non-safety) needles:-

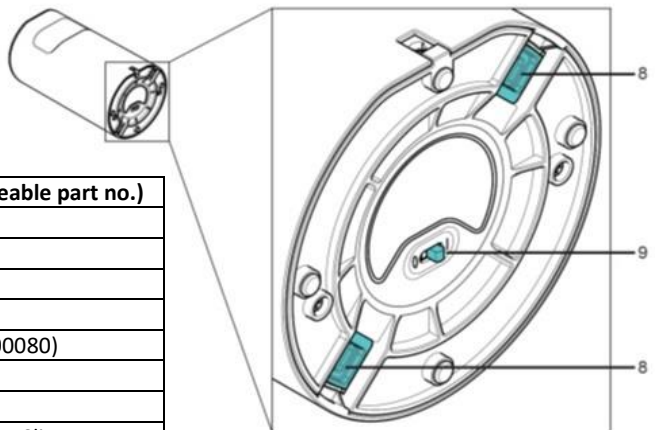
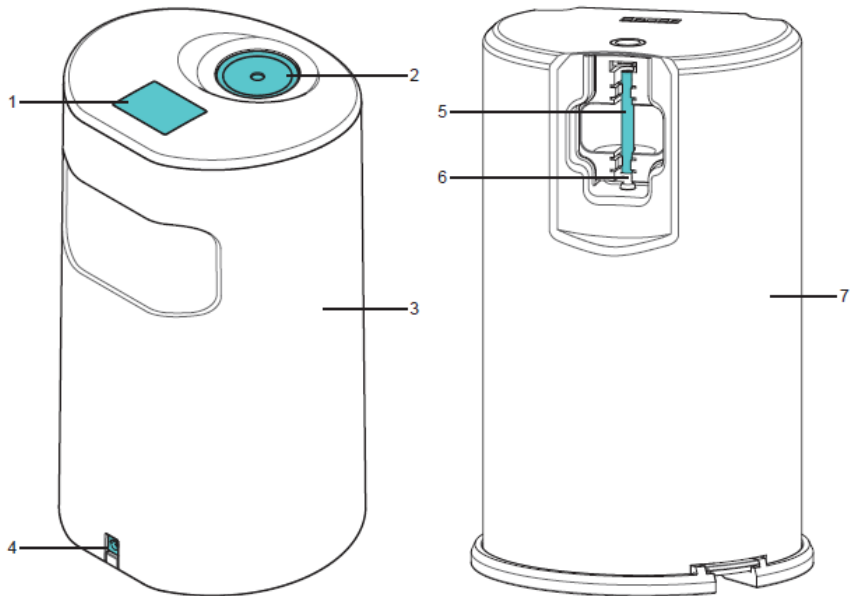
21G – 25G (Green, Blue, Orange) with needle length $\frac{3}{8}$ " – $1\frac{1}{2}$ " (16mm – 38mm)

If your NS Pro device is configured for use with **safety** needles:-

21G – 25G (Green, Blue, Orange) with needle length 1" – $1\frac{1}{2}$ " (25mm – 38mm).

IMPORTANT: Please note that needles outside of the range described above will **not** be processed by the device and should **not** be inserted into the device.

Parts Diagram



Key	Description (replaceable part no.)
1	Display
2	Button
3	Outer Shell
4	Charging Port
5	Quartz Tube (72_00080)
6	Melt Electrode
7	Inner Body
8	Outer Shell Retaining Clips
9	Power ON/OFF Switch

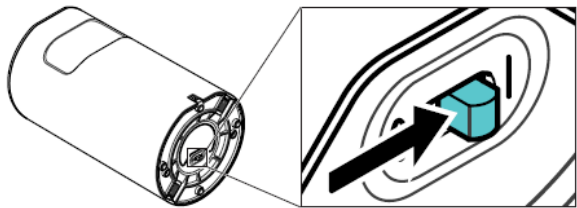
Display

Message	Meaning
Insert Needle	Device is ready to accept needle
Processing	Needle is being processed
Remove Needle	Needle has been processed and can be removed
Battery Low, Recharge Device	Device requires charging
Device Fully Charged – Please Remove Charging Cable	Fully charged
Melt failed! Switch off then on to reset	Needle has failed to melt. Slide Power Switch to “0”, wait 5 seconds, then slide Power Switch to “1” to release needle. ⚠ CAUTION - Needle will be SHARP

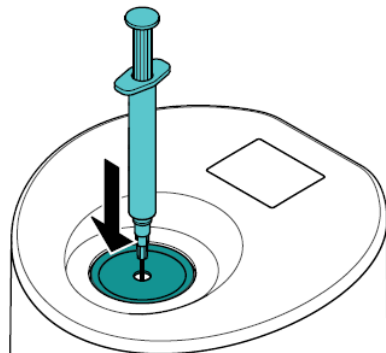
Operation

It is required by NeedleSmart Ltd. that any operators of the NS Pro are adequately trained in its operational procedure by reading the instructions contained within this manual before use.

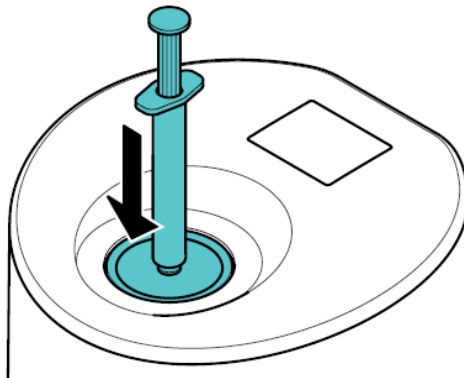
Before operation, check that the device shows no signs of damage, and that the outer shell is fully secured to the inner body. Turn the device ON by sliding the power switch to position “1”. The display will initialise, before indicating that the device is operable by displaying “Insert needle”. In case of failure to initialise, please see Error Codes, page 8.



Place the device vertically upright onto a clean, dry, flat surface. Fully insert a metal needle of suitable length and gauge into the needle aperture on top of the device. Do NOT place hands on or near the needle aperture when inserting needle, as this may result in accidental needlestick injury.



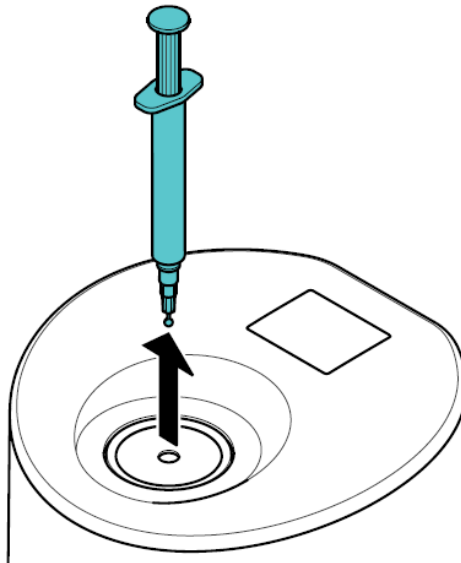
Apply a gentle downward force to the syringe body for approx. 0.5 seconds, then release to begin the needle melt process. ⚠️ WARNING: Do NOT discharge contents of syringe into device.



The NS Pro is designed to process 1 needle every 30 seconds; however, short bursts of up to 10 consecutive needles can be processed. After 10 consecutive needle melts, the device should not be operated above the normal rate for at least 10 minutes.

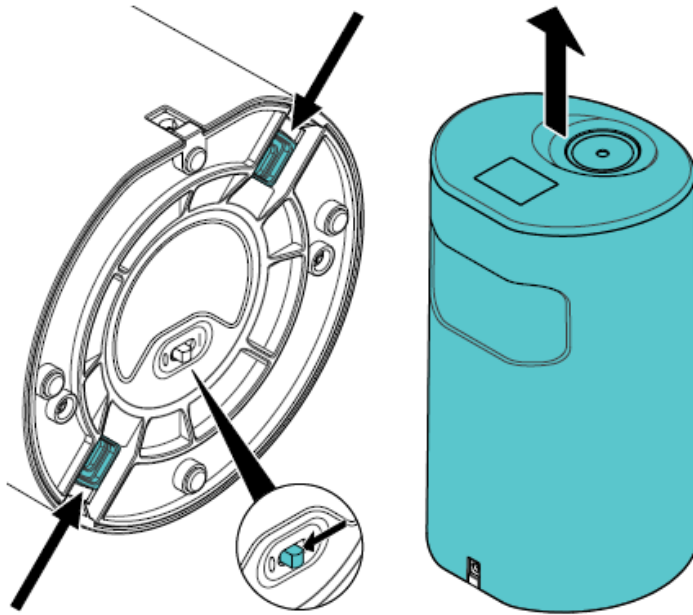
Remove blunted needle and follow appropriate disposal procedures, as determined by local clinical waste disposal protocols.

⚠️ WARNING: Needle metal may still be hot. Do NOT touch needle after processing.



Cleaning

Turn the device OFF by sliding the power switch to position "0". To remove the outer shell, simultaneously squeeze both plungers at the bottom of the device and raise the outer shell.



Clean the outer shell and inner body as required, with approved products ONLY - for example, 70% isopropanol solutions, sporicidal fluids and/or wipes, and/or NaDCC-based cleaning fluids (use only as directed by the cleaning product manufacturer).

As with any advanced electronic device, your device will benefit from regular cleaning. The frequency with which you clean the device is dependent on usage and the duty cycles to which it is exposed.

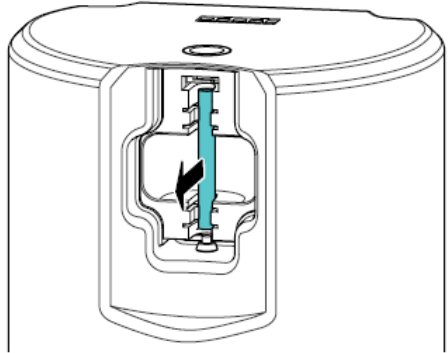
Service Position for Replacement of Quartz Tube

It is recommended by NeedleSmart Ltd. that the quartz tube be inspected for damage on a weekly basis and replaced if there are any visible signs of damage. As a minimum requirement, the quartz tube should be changed every 3 months. To remove the quartz tube, the device must first be switched into service mode. This can be achieved by EITHER:-

- 1/ With the device switched ON, remove the outer shell as described in the previous section.
- OR
- 2/ Switch the device ON after the outer shell has been removed.

It is recommended that the device be switched off once the device is placed into service mode.

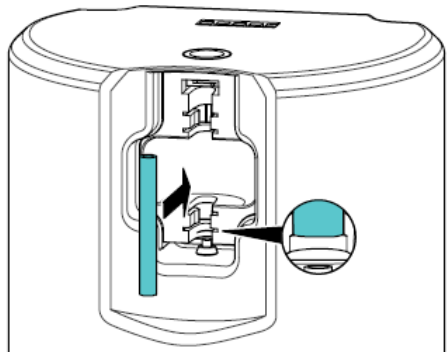
When service mode is enabled, the melt electrode will withdraw into the inner body. The quartz tube can now be removed, as shown. Once removed, dispose of the quartz tube into clinical waste, or by following clinical waste management guidelines.



⚠ Clinical gloves should be worn when removing the quartz tube. If the quartz tube shows any sign of physical damage, safety glasses should also be worn, and the quartz tube should be handled with caution.

Insert replacement quartz tube, ensuring that the smooth end is facing upwards, and the rough end is resting flat on the ledge, as shown.

⚠ Do NOT attempt to operate the device without a quartz tube installed, or whilst attempting to replace the quartz tube component.



The device will reset from service mode and reinitialise once the outer shell is properly replaced and the device is switched ON.

Dimensions

Weight (approx.)	:~ 2.3kg
Height	:~ 249.6mm
Width	:~ 139.0mm
Depth	:~ 144.2mm

Storage

When not in use, the device should be stored in a clean, dry environment, away from direct heat sources, and at less than 75% relative humidity.

Power Ratings

Charger (Standard)

Input: 100-240VAC, 50-60Hz

Output: 29.4VDC, 0.56A

Charger (Fast Charge)

Input: 100-240VAC, 50-60Hz

Output: 29.4VDC, 1.2A

Battery

Technology: 7 cell Lithium Ion

Output: 25.2VDC, 3Ah 75.6Wh

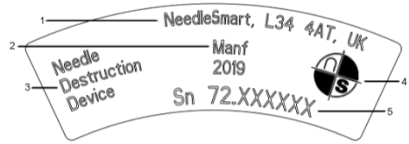
Charging

If the device's display remains blank when the device is switched ON, or the "Device Requires Charging" message is displayed, connect charger in order to recharge internal battery. Remove charger when "Fully Charged" is displayed before using the device.

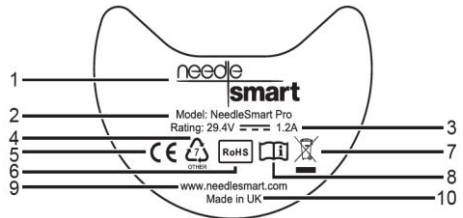
Error Messages

If the device enters a fault state, an Error Message will be displayed. Please contact NeedleSmart Ltd and request Technical Support – please supply details and quote Error Message.

Markings



Key	Meaning
1	Address of Manufacturer
2	Year of Manufacture
3	Device Type
4	NeedleSmart Ltd Company Logo
5	Serial Number



Key	Meaning
1	Product Brand Name
2	Product Model
3	Electrical Rating Information
4	ASTM Resin Identification Code
5	CE Mark Approval Symbol
6	Restriction of Hazardous Substances
7	Disposal Of WEEE
8	User Instructions
9	Manufacturer Website
10	Country of Origin

Approved Standards

The NS Pro is fully certified to meet the following standards:

UN Manual of Tests & Criteria, Subsection 38.3

IEC EN 62133:2012

BS EN 61010-1:2010

BS EN 61010-2-040:2015

BS EN 60335-1:2012

BS EN 61326-2-1:2013

BS EN 60601-1 (Included charger only)

WEEE

THIS PRODUCT SHOULD NOT BE DISPOSED OF IN GENERAL WASTE.

The product may contain substances which can harm the environment or human health if disposed of incorrectly.

The crossed-out wheeled bin symbol shown on this device, its packaging and instructions indicates the device is subject to European Community Directive 2002/96/EC on Correct Handling of Waste Electrical and Electronic Equipment (WEEE).

WEEE cannot be disposed of as general waste and must be collected and disposed of separately. Appropriate waste collection systems defined by national regulations should be used.

Spares

Replacement parts and accessories may be ordered through NeedleSmart Ltd Customer Services, who can also provide general information on NeedleSmart™ accessories and supplementary products.

Cleaning Kit

Part Number	Description
72_000080	Replacement Quartz Tube
72_000087	Cleaning Kit

Warranty

The NS Pro is supplied with a 12-month manufacturer's warranty which includes parts and labour. Faulty devices must be returned to the manufacturer, or their official agent, for repair. The warranty period begins on the date of purchase by the end user.

NS Pro products are warranted to be free from defects in materials and workmanship at the time of delivery. NeedleSmart Ltd accept no liability for any defect arising from wilful damage, negligence, misuse, abnormal working conditions, failure to follow the original manufacturer's instructions, or unauthorised alteration or repair.

Evidence of purchase is required for any claims arising during the warranty period. All warranty claims must be directed through NeedleSmart Ltd Customer Services and in accordance with our sales return policy.

Contact Information

For queries, technical support or device information contact NeedleSmart Ltd.

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