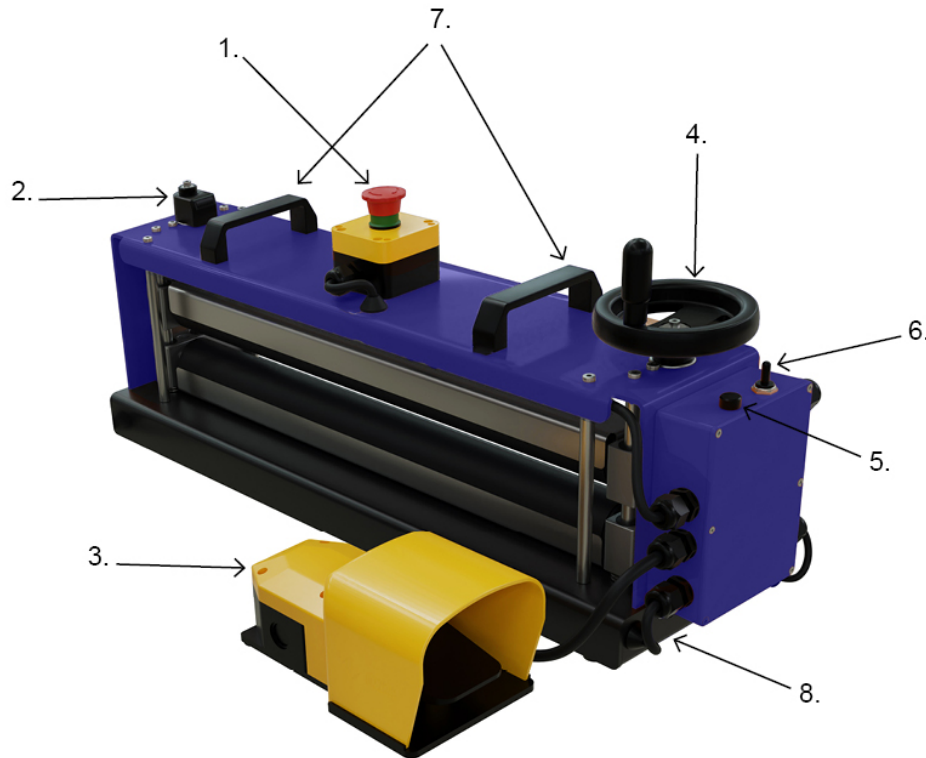


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# 1 General Information

The NanoRoller D150 & NanoRoller D300 are electrical impregnation machines intended for impregnating epoxy/resin into a liner. The NanoRoller D150 & NanoRoller D300 consist of the following machine parts:



**Figure 1** NanoRoller Machine parts

1. Emergency stop
2. Counter for roller distance
3. Foot pedal
4. Hand wheel for roller distance
5. Speed control
6. Direction switch
7. Handles for carrying and lifting
8. Quick release fixing plate

## 2 Safety Information

These instructions are for your own, personal safety.

Always make sure that you have read and understood these instructions carefully before using the device.

### 2.1 General Safety Instructions

Always keep down the emergency stop button while you are not using machine.

NanoRoller is for professional use only. Machine is made only for impregnating epoxy into a liner (which is made for rehabilitating drain pipes). Method is known also as CIPP (Cured in place pipe).

**In public areas, do not leave the NanoRoller unattended! Prevent third-party from operating and accessing the NanoRoller machine.**

If you however leave the machine without attendance, push the emergency stop button down and prevent input power to the machine. It is also possible to remove the power cable from the machine and prevent access to power cable from third parts.

Do not use this product for anything other than intended use.

No liability can be accepted for any damage caused by noncompliance with these instructions or any other improper use or mishandling.

#### **Extra safety rules:**

**If you need to control or steer liner while impregnation, keep your fingers far enough to prevent your fingers from going in between rollers. Coating on rollers is sticky, so do not even wipe quickly rollers when machine is powered.**

**Keep your hair tied, take hanging jewels (or similar) away and do not use hanging or loose clothes.**

**Impregnation unit has safety limit pressure between rollers, rollers stop if something hard enough will go between rollers while running and pressure between rollers rises too high. In these cases, take off your foot from foot pedal, push emergency stop down and enlarge distance between rollers by turning hand wheel anticlockwise (viewed from above).**

### 3 Assembling

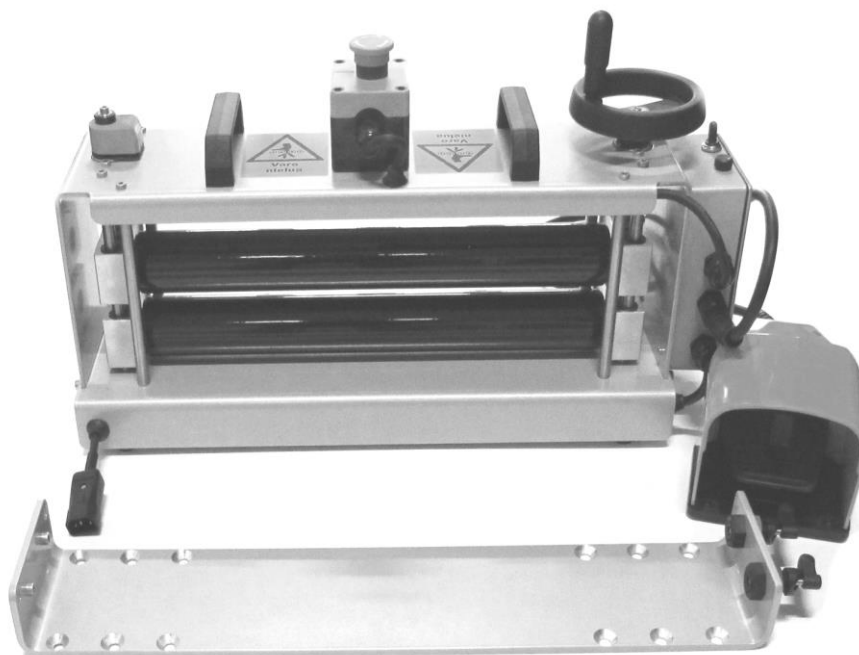
Fixing plate is delivered with impregnation unit. Attach fixing plate on worktable with 4 bolts (or similar), which have been delivered with impregnation unit. Use primarily bolts which have been delivered with fixing plate.

Mark holes from fixing table on worktable. Use fixing plate as a template. Drill on worktable  $\varnothing$  8,5 mm holes on marked places. Make sure that your worktable is steady enough.

Fix impregnation unit to fixing plate by using quick releases, which are assembled to fixing plate. Make sure that you have free access to quick releases. Fixing plate can not be installed so that quick releases are against wall.

There are rubber plugs at bottom of impregnation unit so that impregnation unit can be set down to floor or ground. Impregnation unit can be taken away from attached fixing plate by realising quick releases. Notice that when impregnation unit is not attached on fixing plate impregnation unit can fall while impregnating liner between rollers. Risk of falling increases according to liner size and weight.

If impregnation unit is attached with fixing plate to vehicle, make sure that impregnation unit is fixed with tightening strap or similar, while vehicle is moving.



## 4 Using the machine

Keep emergency stop down position (pushed down), while you are not using the machine.

Connect power cable to machine and to power outlet. Adjust roller distance suitable by turning from hand wheel. Rollers distance enlarges by turning hand wheel anticlockwise and decreases by turning hand wheel clockwise (looked from above). Roller distance can read from counter reading, which shows rollers distance with 0,1mm accuracy. One round from hand wheel changes 4,0mm roller distance.

Adjust speed always to minimum by turning speed control anticlockwise looked from above, before starting impregnating. Choose wanted direction from direction switch, liner is going to direction where direction switch is tilted.

Try to keep liner always in centre of rollers, then pressure is approx. same at both ends/fulcrums of rollers. If pressure is too high on one side, impregnation unit might stop, because of safety limits. Pressure can be too high also if you are impregnating with too small roller distance. If that happens stop impregnating and enlarge roller distance to release safety limits.

## 5 Trouble shooting

Checklist for trouble shooting:

- Check that power plug and cable are in order
- Release emergency stop
- Check that direction switch has been selected
- Check that there is power in power outlet
- Safety limits can get stuck if pressure between rollers has been too high.  
To release safety limits lift under roller some millimeters up. NOTICE while performing this operation the machine has to be unpowered.

If necessary, contact manufacturer or your reseller for advice.

## 6 Guarantee

Guarantee for the machine is 6 months starting from purchase/delivery date.  
Guarantee ends if structural changes have been made or structural have been opened.

Guarantee will end also if machine label has been relocated or removed.

## 7 Technical data

- Input 100 – 240 VAC / 50 – 60 Hz / 2.1 A
- Adjustable speed control
- Direction switch
- 2 powered brushless rollers/motors with grip coating
- Foot switch
- Adjustable roller gap with counter reading
- Quick release table fixing for easy movement on the work site
- Safety limit pressure between rollers, Rollers stops if pressure is too high
- Safety covers in both rollers
- Emergency stop
- Carrying handles
- Weight, unit D150: 19,4 kg
- Weight, unit D300: 21,6 kg
- Measures, Unit D150: 650 x 200 x 360 mm
- Measures, Unit D300: 790 x 200 x 360 mm
- Capacity Unit D150: Max. DN150 liner
- Capacity Unit D300: Max. DN300 liner