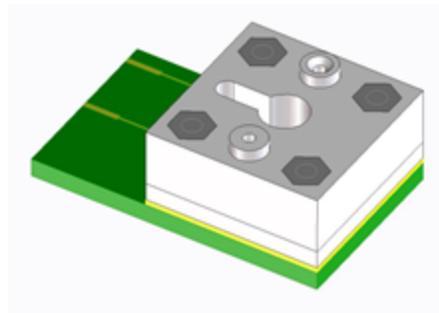
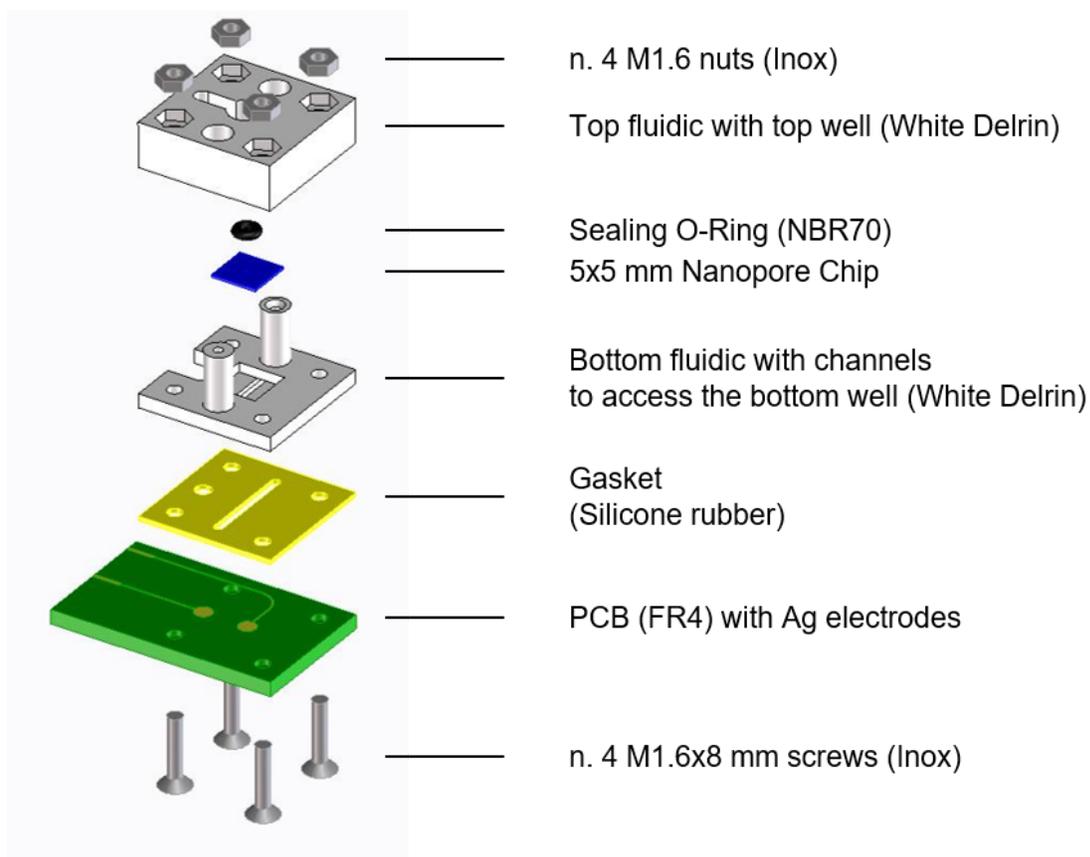

eNPR - Flow cell for Nanopore Chips: Flow cell assembly and cleaning procedure



This short user guide will tell you about the individual components of the Nanopore Chip containing flow cell and their materials, how it is correctly assembled and the proper cleaning procedure.



Pack stack



There are two different kinds of Nanopore Chips available. They both consist of a **SiN** layer in which the nanopore is drilled, but one type is **glass**-based and the second type is **SiO**-based.

They differ in thickness: The glass-based is **200 µm** and the SiO-based is **500 µm** thick. Please make sure to choose the correct bottom fluidic part with the correct nanopore chip thickness before using.



Flow cell assembly & cleaning procedure

Dry Nanopore Chip

1. Chlorinate the Ag electrodes on the PCB by adding a drop of bleach on each electrode for at least 10 minutes.
2. Clean the gasket and the O-Ring with Isopropanol or Ethanol, afterwards rinse with ddH₂O and dry.
3. Clean the Nanopore Chip with Isopropanol or Ethanol, afterwards rinse with ddH₂O and dry.
4. Clean the top and bottom Delrin wells with acetone or max. 5% nitric acid, afterwards rinse with ddH₂O and dry.
5. Make sure that the top and bottom fluidic chambers are completely dry.
6. Assemble the flow cell according to the stack above. Load the Nanopore Chip normally and tighten the screws securely, so that the seal is tight.
7. Fill the bottom well with 30 µl of salt solution
8. Fill the top well with 60 µl of salt solution.
9. Insert the flow cell into the eNPR reader.



Wet Nanopore Chip

1. Chlorinate the Ag electrodes on the PCB by adding a drop of bleach on each electrode for at least 10 min.
2. Clean the gasket and the O-Ring with Isopropanol or Ethanol, afterwards rinse with ddH₂O and dry.
3. Clean the top and bottom Delrin wells with acetone or max. 5% nitric acid, afterwards rinse with ddH₂O and dry.
4. Make sure that the top and bottom fluidic chambers are completely dry.
5. Please be careful with the Si chips, they are more fragile than the glass chips.
6. Remove the Chip from the Eppendorf tube with a pair of tweezers and place it on the chamber, the “pit” side facing upwards (the idea is to keep the flat side of the Chip near the bottom solution so that a bubble does not form in the etched “pit” of the Chip).
7. Place the O-Ring on top of the Chip and seal the chamber tightly.
8. Place a small amount of water (10 µl) on the top side of the Chip to keep it wet.
9. Flush the bottom of the cell with Isopropanol or Ethanol.
10. Flush the bottom of the cell with ddH₂O. Be careful not to introduce air bubbles into the chamber. Finally insert the salt solution on both sides of the cell.
11. Insert the flow cell into the eNPR reader.