

# Simplified SOP of Operating the Apparatus

- 1 Collect all the parts, fasteners, tools, and gaskets needed as shown in the pictures and transfer them into the glove box.



- 2 Assemble the corrosion cell and other parts. The assembly is sealed inside of the glove box.
- 3 Transfer the assembly out of the glove box to install the heating related parts.
- 4 Connect the assembly to the end of the accelerator beamline and start evacuating the chamber.
- 5 Connect cables for the heater, vacuum gauge, etc.
- 6 Feed the argon enclosure with argon.
- 7 Assemble the steel shielding box and the RicoRad shielding box.
- 8 Start the accelerator sputter source.
- 9 Start the heating.
- 10 Optimize the beam current and alignment of the low energy side of the accelerator.
- 11 Start the accelerator terminal.
- 12 Steering the beam down to the beamline that has the assembly connected to.
- 13 Insert the Faraday cup. Maximize beam current on the Faraday cup.
- 14 Close the gate valve that is adjacent to the chamber. Retract the beamline Faraday cup.
- 15 Turn on the BPM. Open the oscilloscope to show the beam profile.
- 16 Tweak related controls to have the desired beam shape.
- 17 Insert the beamline Faraday Cup. Open the gate valve that is adjacent to the chamber. Obtain the desired beam current by increasing the stripper gas pressure.
- 18 Check whether the control temperature has reached to the set point. If so, retract the beamline Faraday cup. On the control program, turn recordings on. **This is the start of the experiment.**
- 19 Turn the alarm light on. Surround the area to restrict access.
- 20 To the desired running time, turn the heater off. Insert the Faraday cup. **This is the end of the experiment.**
- 21 Shut down the accelerator.
- 22 Disassemble the RicoRad shielding box and the steel shielding box.
- 23 Disconnect the cables and argon supply line.
- 24 Close the gate valve that is adjacent to the salt chamber. Stop pumping vacuum.
- 25 Refill the vacuum housing with high purity argon.
- 26 Take the vacuum line off and seal the top with blank KF flange.
- 27 Detach the assembly from the beamline and seal the assembly with the 2.75" blank CF.
- 28 Disassemble heating related parts on site.
- 29 Disassemble remaining of the assembly in the glove box.