## Copper Gaskets/Seals

* 1. Put on fresh pair of vinyl gloves and safety glasses.
	2. If copper seals are tarnished, follow instructions for copper components.
	3. If copper seals are clean and tarnish free in a manufacturer’s bag, wipe bag with isopropanol on an Alpha Wipe.

Step 2:

* 1. Put on fresh pair of vinyl gloves and safety glasses.
	2. Material’s surface may be covered in tarnish from the oxidation of the copper. Impurity on surface should be removed by doing the following:
		1. Measure 4 oz. of Micro 90 detergent into a small container.
		2. Fill remainder of container with DI water at “rinse only” wet bench side.
		3. Use TX 2009 Beta Wipes to apply mixture directly onto part.
		4. Rinse with DI water.
	3. Parts need to be cleaned in ultrasonic (UHV) basin, accomplished as follows:
		1. Place seals in container.
		2. Place container in UHV.
		3. Close drain system of UHV.
		4. Fill container ¾ full of DI water (each part needs to be completely submerged for UHV cleaning to successfully be performed).
		5. Fill UHV with at least 3 inches of DI water to prevent motors from overheating (thereby causing permanent damage to the UHV).
		6. Disperse 4 oz. of Citranox into container.
		7. Set UHV timer for 15 minutes.
	4. Parts will need to be bagged in nylon material:
		1. Cut appropriate length/width nylon bag for each part.
		2. Seal one end of bag with sealing machine.
		3. Sets bags under hood in a dry place.
	5. Replace vinyl gloves with fresh pair of poly gloves, put on safety goggles.
	6. Parts will need to be dried in Acetone:
		1. Set up a compatible container with acetone for drying.
		2. Pour enough Acetone in container to adequately submerge parts.
		3. Label exterior of container with chemical label to insure safety.
	7. Seals need to be thoroughly rinsed of loose particulate once UHV timer expires:
		1. Remove container from UHV, transfer it to “rinse only” wet bench side.
		2. Rinse with DI water hose thoroughly.
		3. Agitate in first rinse basin 3 times.
		4. Agitate in second rinse basin 3 times.
		5. Agitate in third rinse basin 3 times.
		6. Rinse again with DI water hose.
	8. Don fresh pair of poly gloves.
	9. Copper seals will oxidize in a short period of time. To reduce any chances of tarnish follow these steps:
		1. Set parts into Acetone basin. Solvent will rapidly remove any moisture.
		2. Jostle basin if necessary.
		3. Remove seals one at a time.
		4. Dry parts with nitrogen (N2) gun *optional* use ear PPE to reduce high decibel exposure from N2 gun drying.
		5. Place dried parts on fresh TX 2009 Beta Wipes.
	10. Inspect for remaining tarnish or oxidation. If blemishes remain:
		1. Mix another batch of cleaner (see 2.b.i.-iv.)
		2. Use lightest grade Scotch-Bright (light gray) to scrub surface of copper with Micro mixture.
		3. Scour in one direction.
		4. Rinse with DI water.
		5. Repeat all previous steps from the beginning.
	11. NOTE: Copper seal bags will need to be purged of oxygen (O2), to do so follow these steps:
		1. Bag field probe components (see step 3); probe tips bags will need to be purged of oxygen, to do so follow these steps
		2. Only bag if part is COMPLETELY dry and no oxides appear on surface of part.
		3. Place part in its own bag.
		4. Seal opposite end of bag with sealing machine.
		5. Cut off corner of bag with scissors.
		6. Use N2 gun to purge bag of oxygen (O2); be careful not to bust bag with N2. There should be enough N2 trapped in bag to create “pillow” effect.
		7. Reseal bag on corner used to introduce N2.