

Anode Replacement

Installation procedure:

X-RAY ANODE REPLACEMENT KIT PN 003285-00

Qty	Description	Part Number	DEO 2232
6	Screw Hex 8-32	4450-0013	Date 3—21-91
1	X-Ray Anode	001734-00	Sort Code 8815
1	Cu gasket	6100-0002	
1	Procedure	000001-00	

NOTE: The X-Ray Anode should -be replaced each time the E-Gun is or replaced.

CAUTION: The X-Ray Anode and high purity water in the M&W water recirculation should be replaced biannually. Failure do to so may result in damage to instrument.

1. Turn off X-Ray Controller (8702) then M & W water recirculation (3914). Turn off the X-Ray High Voltage Power-Supply, the Spectrometer Power Supply, and the Charge Neutralizer Subsystem, the Ion Gauge and gate valve to the Cryo Pumps and any accessories that could be damaged by air.

2. Do NOT vent system' at this time Wait 30 minutes for the system to cool.

3. Backfill the system with nitrogen See section 6.3.3.5 of Operators Manual.

CAUTION: Before backfilling system with nitrogen, be sure E-Gun is cool, if this is not done property damage could -result to the E-Gun.

4. Disconnect water lines from the anode flange

5. Remove eight - 5/16 hex head screws from the flange of the X-Ray anode holder.

6. Remove six 8-32 allen head screws from the anode flange that retains the anode keeper. Support the anode flange with a gloved hand in this process. See Figure I page 3.

CAUTION: Use caution in removing the screws so as not to damage or distort the structure.

7. Discard the used screws.

8. Remove anode keeper and X-Ray anode from its holder. NOTE: A small screwdriver may be required to remove the X-Ray anode from the anode keeper. Extreme caution is required so that

the knife edge is not damaged. Discard old 3 3/8 copper -gasket.

9. Remove new X-Ray anode from kit. Clean the anode with a clean ipe soaked in MeOH. Use gloves and dry anode thoroughly.

10. Locate the new anode in its holder with the aluminum side facing away from the cooling holes and the rectangular milled slot parallel to the water cooling holes in the holder, so that the water can properly flow from one hole. to another. It may help to put a small scratch at the edge of the anode to aide in visual alignment.

CAUTION: It is important that the water holes match up with the milled slot in the anode.

11. Install the anode keeper.

12. Place new screws **into** anode keeper and tighten down, turning, each screw a 1/4 of a turn until all screws have been tightened and keeper to anode flange is a distance of ~0.0015"-0.0020", be sure to support the anode flange with a gloved hand. **Note a bottom says that says it should be fully tightened to avoid leaks.**

CAUTION: When tightening screws brace anode cooling lines at bottom of anode flange closest to the flange so that bending will not occur. See Figure 1 page 2. It's also important to replace old screws with new ones due to the fact that the old one if reused might seize in the holes.

9. Replace 3 3/8 gasket and place anode holder up to flange, put bolts into place and tight them in a clockwise manner, tightening each bolt 1/4 turn until all have been tightened. Reinstall water cooling linesand begin running instrument again.

10. If there are any questions concerning this procedure Customer Service