1. Wiggler UHV Beam Pipe with Thin RFA, as Delivered for Testing. The assembly shown here will be shortened and inserted into CESR-c Wiggler Magnet after RFA Testing.
2. Recommended assembling/welding sequences are shown on Sheets 18 through 21.

See Sheet 2 for More Assembly Views
CESR Wiggler Chamber with Stu-RFA

Accu-Glass P/N 100225  14.50" Flange with 2XD25 Feedthroughs

Purchased

2 2.50" Port Tube

1 RFA Tunnel Cover

1 SLAC PIPE BOTTOM HALF

1 SLAC PIPE TOP HALF

7 2 F450X250 R

5 2 2.50" Port Tube

1 RFA Vacuum Cover

1 Flex Circuit Strip

3 Sandwitched Grid

2 SST_Cu Transition

1 Cooling Channel #2

1 Cooling Channel #1

2 Temporary End Flange Asm

Sheet 1715

Sheet 1614

Sheet 1513

Sheet 1412

Sheet 1311

Sheet 1210

Sheet 98

Sheet 74

Sheet 73

Sheet 72

Sheet 71

Sheet 22

Sheet 86

Sheet 75

Sheet 51

Sheet 41

Sheet 14

Sheet 13

Sheet 12

Sheet 11

Sheet 10

Sheet 9

Sheet 8

Sheet 7

Sheet 6

Sheet 5

Sheet 4

Sheet 3

Sheet 2

Sheet 1

FOR MACHINING LUBRICANT USE ONLY
ALKALINE DETERGENT LUBRICANT CIMSTAR 40 OR EQUIVALENT
APPROVED BY CORNELL LEPP

CONRAIL Wiggler Chamber with Stu-RFA
1. Parts 1 and 2 are made from SLAC Copper Quad Beam Pipe
2. Recommended slicing lines are shown as above
3. Details of Part 1 are given in Sheets 4 and 5
4. Details of Part 2 are given in Sheet 6
RFA Vacuum Cover

Sheet No.: 6085-003
MATERIAL: OFHC Copper, 0.063" THK
NOTES:

Cover Plates, Details

Sheet No.: 6085-003
MATERIAL: OFHC Copper, 0.125" THK
NOTES:

CSSR Wiggler Chamber with Thin RFA

Sheet No.: 6085-003
MATERIAL: OFHC Copper, 0.125" THK
NOTES:
Stainless Steel Mesh

FILE NAME: 6085-003
SHEET NO: 9
QTY: 3
MATERIAL: Make from P/N BE0600 SST Mesh
NOTES: Purchase the mesh from InterNet Netting for Industry

Reinforced Grid

FILE NAME: 6085-003
SHEET NO: 9
QTY: 12
MATERIAL: SST Shim Stock
NOTES:

Reinforced Grid, Sub-Asm
Step 1:
- Tack Weld Tunnel Cover as indicated. Minimize the weld beads.

Step 2:
- *) E-Beam Weld the halves, as indicated
- *) TIG Weld the parts, as shown. Purge inner pipe with dry nitrogen to prevent oxidation during the TIG weld.
- *) Leak check using elastomer seal to cover the top beam pipe.

Step 3:
- *) Ensure to have dry nitrogen purging through the pipe to prevent oxidation of the inner surfaces.
- *) TIG weld SST/Cu Transition and then the 6 Flange.
- *) TIG weld both cooling bars and pressure test the cooling bar welds to 90 PSI.
- *) TIG weld the flexible disk.
- *) TIG weld the temporary end flange assembly.
- *) Leak check the beam pipe vacuum joints.
- *) Leak check the flexible disk weld joint, with a fixture.
Step 4 — Install grid assemblies.

*Install UHV compatible Kapton coated copper wires to the SST taps on three enforced SST screen, using UHV compatible solder and flux. Thoroughly clean the soldered connection to remove flux residue. Electrically insulate the soldered joints with UHV compatible Kapton with silicone adhesive.

*Install three grids as shown, and secure the grids in place with the special #2-56 screws

*Route the grid connection wires via side channels, through the tunnel to the RFA connection port
Step 5 - Install Flex Circuit collector stripe.

- Feed the flex circuit stripe through the tunnel to the RFA connection port.
- Make soldering connection of the flex circuit stripe to the UHV cable assemblies, per Cornell specification.
- Locate the flex circuit stripe to location as shown, and secure the stripe in location using UHV-compatible Kapton tape with silicone adhesive.
Step 6 -- E-Beam weld RFA vacuum cover.

*E-beam weld RFA vacuum cover. Adequate heat sink must be placed both inside and outside of
the top beampipe, to ensure the temperature at the flex-circuit strip does not exceed 200°C

*Leak check the finished assembly