

# Instructions for Replacing The 15K Cryo-Adsorbing Array

## For Use with Cryopumps

### CTI Cryo-Torr®-8\*

### Austin Scientific Cryo-Plex®-8\*\*

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#### The 15K Cryo-Adsorbing Array Kit Contains Factory Sealed Items P/N 100140

ITEM No.	Description	Quantity
1	15K Array (Charcoal Panels, Pair)	1
2	Top Plate	1
3	Cap Screw, #6-32 UNC X 1/2" Long, SS	8
4	Lock washer, Split Lock, #6, SS	8
5	Washer, Flat, #6, Small, SS	4
6	Washer, Flat, #6, Large, SS	4
7	O-Ring, Inlet ANSI Style Flange, Viton	1
8	Precut Indium Gasket Set, 99.99% Pure	1
9	Installation/Alignment Pins	4
10	Balldriver Tool	1
11	Cleanroom Protective Gloves (Pair)	1

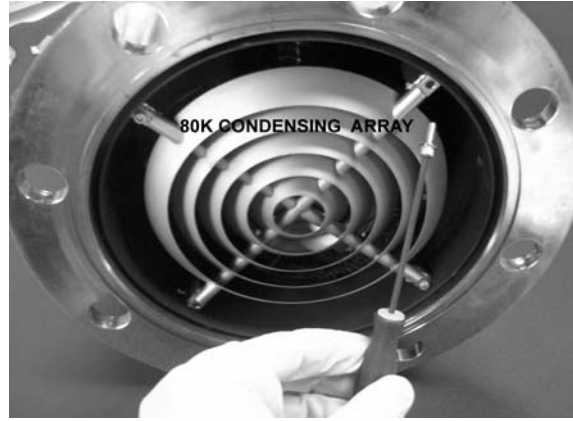
**Warning** Make sure the cryopump and compressor are disconnected from any power source before beginning any work. Follow all of the recommended safety guidelines in your OEM cryopump operations manual.

**Caution** If your cryopump has been used to pump any toxic or hazardous materials, take adequate precautions to safeguard all personnel. Follow all of the recommended safety guidelines in your OEM cryopump operations manual. The removed arrays and used components must be disposed of per all state and federal regulations.

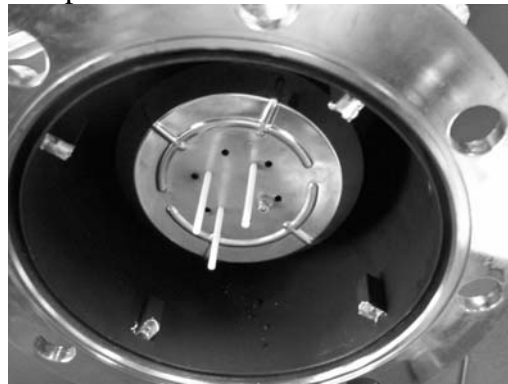
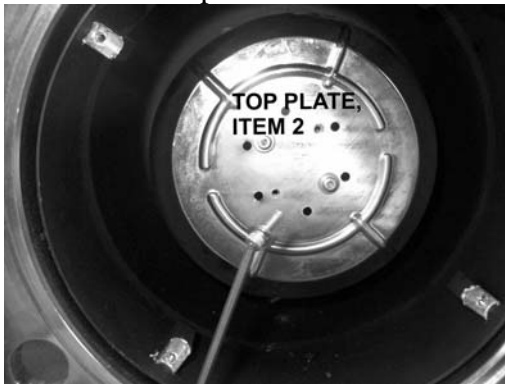
**Caution** If your pump is equipped with a silicon diode temperature sensor, be careful not to damage the wires or any heater wires while removing or installing the arrays.

Follow the instructions below after your cryopump has been properly removed from your vacuum system as recommended by your owners manual. Place the cryopump, inlet flange up on a clean and safe work surface. Wear gloves supplied with kit.

1. Use the balldriver, **ITEM 10**, to remove the four socket-head cap screws and washers that secure the 80K Condensing Array. Gently lift and remove the array and the four, indium gaskets.



2. Remove two diagonally opposite socket-head cap screws and washers that are securing the Top Plate, **ITEM 2**, and the 15K arrays, **ITEM 1**. Screw in Alignment pins, **ITEM 9**, into holes left empty by the two removed screws. Remove the two remaining screws and washers and replace with the other 2 alignment pins.



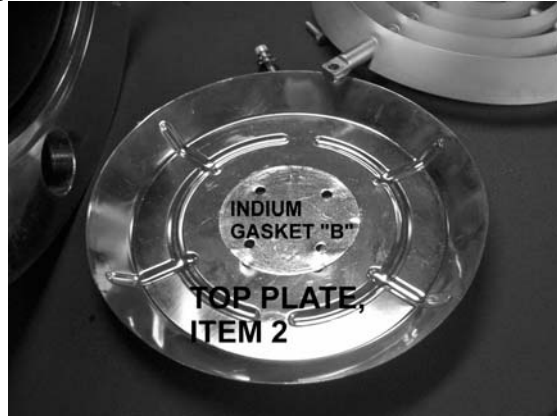
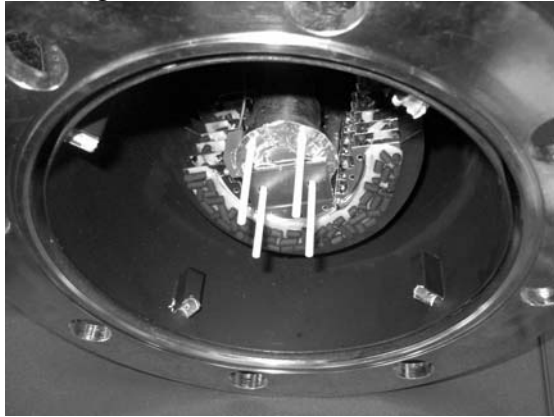
3. Carefully lift and remove the Top Plate, **ITEM 2**, Gently remove the two halves of the 15K Array, **ITEM 1**. Remove the Alignment Pins and any remaining gasket material on the second stage cold station. Clean inside of pump 80K Radiation Shield with lint-free cloth and Isopropyl Alcohol.

### Indium Gaskets

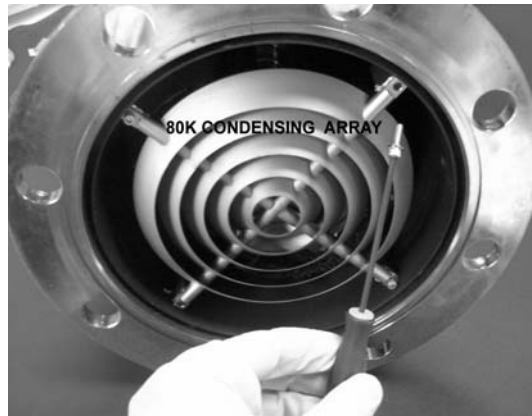
Indium Gasket	Location	Size	Qty
A	Goes between the second stage cold station and the 15K Array, Item 1	1.875" Dia.	1
B	Goes between the 15K Array, Item 1, and the Top Plate, Item 2	1.875" Dia.	1
C	Goes between the 80K Radiation Shield brackets and the 80K Condensing Array	.625" Sq.	4

•See drawing supplied with the Indium Gasket Kit•

4. Place new indium gasket “A” on top of the second stage cold station. Fit each of the Alignment pins into the threaded holes on the second stage cold station. Place each half of the new 15K Array, **ITEM 1**, on top of the gasket. Each half should be aligned between the pumps existing diode or vapor bulb.
5. Place indium gasket “B” on the bottom of the new Top Plate. Poke holes through the indium at the four clearance holes that should line up with the alignment pins securing the gasket to the bottom surface of the Top Plate.



6. Place the Top Plate on top of the 15K Array, gasket between the two and aligned up using the installed alignment pins.
7. Begin to remove the first alignment pin and install the new socket-head cap screw, **ITEM 3**, and one each lock washer, **ITEM 4**, and one large flat washer, **ITEM 6**. Repeat, finger tighten the screws till all sets are in place. Now tighten each screw to 15-20 inch-pounds, maintain this torque value for a minimum of five seconds for each screw to give the indium gasket time to properly seat.



8. Place one gasket “C” into each of the four brackets that are located on the 80K Radiation shield. Reinstall the 80K Condensing Array removed in step 1. Use new socket-head cap screws and small flat washers, **ITEM 5**. Torque screws as described in step 7.
9. Clean new O-Ring and the groove with a lint free cloth. Replace the old inlet flange O-Ring with the new one supplied with the kit, **ITEM 7**. Apply a light coating of vacuum grease as needed.
10. Reinstall pump to vacuum system per owners manual directions.

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