

Operation Manual Source Changer Model IR-50

<p style="text-align: center;">Transfer of Sources Source Changer Instructions</p> <p>Note: Persons using this equipment should be thoroughly familiar with techniques and safety precautions concerned with the safe handling of radioactive materials. Operations should be performed in strict accordance with radiation safety procedures. Survey instruments should be on and operating, and after the transfer, a thorough check should be made of all equipment to verify that radiation levels are within safety limits.</p>	<p>Warning:</p> <p>This device has been prepared for use with INC source models as indicated on the lock assembly, while COMPARABLE source from another manufacture should be acceptable, no attempt should be made to alter the assembly or to insert other models source.</p> <ol style="list-style-type: none"> 1. Survey new source shipping drum. Record both surface mSv/hr. and @ 1 meter. <p>Note: If surface dose rate exceeds 2 mSv/hr. , Place container in a safe area and contact the supplier.</p> <ol style="list-style-type: none"> 2. Remove the source shipping container from drum.
<p>Instructions for Transfer of Spent Source from Camera to Changer</p>	
<ol style="list-style-type: none"> 3. Attach one (1) end of the transfer tube to the camera in the usual manner. Unlock and remove shipping plug from changer. Remove adaptor from the dust cap. Attach it to the source changer lock body. Connect the other end of the Transfer tube to the adaptor on the empty side of the source changer. Position the equipment in such a manner as to permit free travel of the source assembly in the tube. 4. Position the drive crank the maximum distance from the camera. 5. Unlock the empty side of the source changer. This will be indicated by the fully extended indicator on the lock body . 6. Quickly crank the source out of the camera and into the source changer. Survey the equipment to verify the insertion of the source. 	<ol style="list-style-type: none"> 7. Secure the source changer lock. Indicator fully retracted. Test pigtail to verify source is securely held by closed lock. This may be done by attempting to retract the source after the lock has been closed. 8. Unscrew the adapter coupling connecting the exposure tube and the source changer. Disconnect the source from the drive cable in accordance with the camera manufacturers instructions. 9. Replace the dust cap on the lock body and attach the spent source tag with a wire seal.

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Instructions for Installing New Source in Empty Isotope Camera	
<ol style="list-style-type: none"> 10. Remove the dust cap on the lock body with the new source tag. 11. Align the isotope camera and exposure tube with source changer. The exposure tube should be straight and free of kinks with the end of the drive cable protruding ½ in. from the end of the housing. 12. Connect the new source to the drive cable in accordance with the isotope camera manufacturer instruction. 13. Connect the exposure tube and adapter coupling to the source changer lock body. 	<ol style="list-style-type: none"> 14. Position the camera drive crank the maximum distance from the camera. 15. Unlock the safety feature securing the new source in the source changer indicated by fully extended indicator. 16. Quickly crank the new source into the camera, survey the equipment to verify safe position of the source. 17. Lock the camera and replace the adapter and shipping plug. Attached in the source the verification plate to the isotope camera.
Shipment Packing Instructions	
<ol style="list-style-type: none"> 1. Replace the source changer in the shipping drum. 2. Replace the shipping drum cover and secured to lock bolt with wire seal. 3. Survey and record both surface mSv/hr. and @ 1 Meter. 4. Labeling-complete the description and packaging certification and place on outside of container. Outside container must be marked with the proper shipping name and label as shown. 	<ol style="list-style-type: none"> 5. Bill of lading-complete bill of lading as shown: Consignee and Consignor's address, number of pieces shipped. Type B description of contents: class 7, U.N. 2916, special form, iridium 192, number of Becquerels, total weight, transport index, yellow label, 6. Yellow II labels may be used if the surface dose rate does not exceed 0.5 mSv/hr and the 1 meter dose rate does not exceed 0.01 mSv/hr.
Instructions for return of Source Changer	
<p>The source changer should be returned freight prepaid to INDUSTRIAL NUCLEAR COMPANY 14320 wicks blvd San Leandro, ca 94577 Tel: 510-352-6767, 888-353-7831 Fax: 510-352-6772, Web: www.IR100.COM</p>	



FOR USE ON SHIPMENT VIA AIR



MAXIMUM RADIATION LEVEL AT SURFACE 0.005 mSv/hr. MAXIMUM RADIATION LEVEL AT 1 METER 0.01 mSv/hr



MAXIMUM RADIATION LEVEL AT SURFACE 2 mSv/hr. MAXIMUM RADIATION LEVEL AT 1 METER 0.1 mSv/hr