

1 Changing the tube head

The change of the tube head differ some depending on tube heads version.

Instructions for tube head versions:

- 3.0 are in chapter 1.1
- 1.6 and 2.0 are in chapter 1.2.1
- 1.3 to 1.5 are in chapter 1.2.2

The version number is shown on the cover of the tube head.

1.1 FOCUS™ 3.0 (tubehead v3.0)

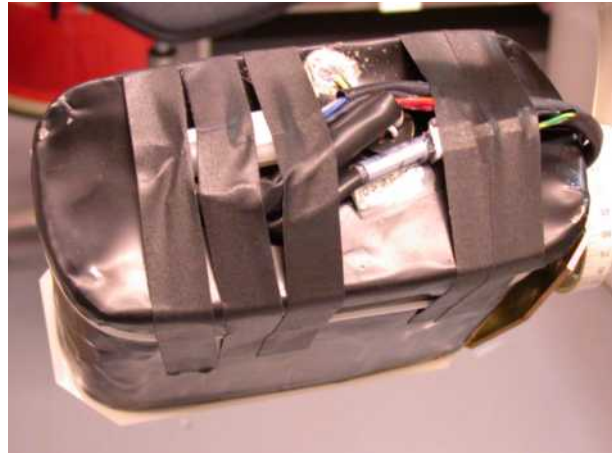
1. Switch off the unit and disconnect from the main.
2. Release the angle ring with a screwdriver and remove the back cover.



3. Remove the O-ring and the aluminum filter.



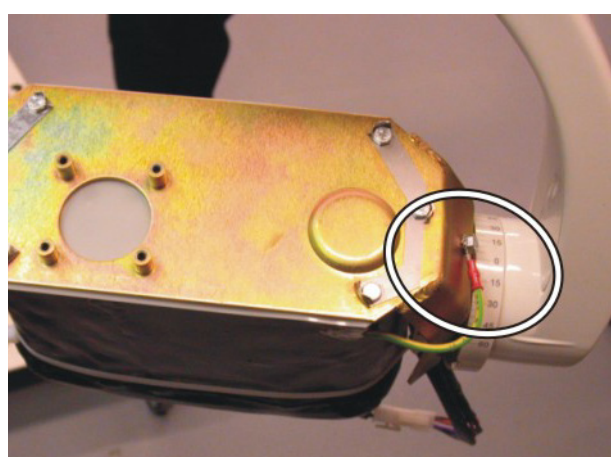
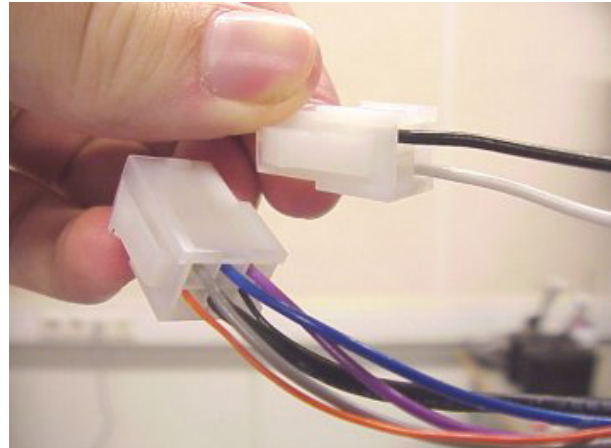
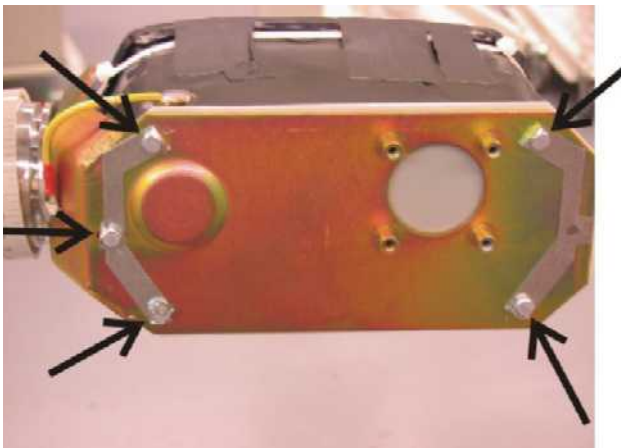
4. Remove the tube heads front cover, cable tie and tapes.



5. Detach the Molex connectors and ground cable from tube head. Disengage the bottom screws from the locking plates and remove the screws.
6. Replace the tube head with new one. Remember to put the mylar coat between the bracket and the tube head. Set the locking plates on the bottom of the bracket and tighten the screws with 0.5 Nm torque. Use torque wrench. If the torque wrench is not available use the similar tool like in the picture, and tight the screws using only two fingers. Do not use any glues. Fix the locking plates around the bottom screws.

**CAUTION!**

Excessive tightening may damage the tube head.



- 7.** Connect the molex connectors and screw down the ground cable. Screw down the ground cable to the tube head bracket.
- 8.** Bind the cables around the tube head with cable clamp and tape.

- 9. Attach the front cover and aluminum filter to the tube head. Set the O-ring in to the filter.



- 10. Put the back cover back in place.



- 11. Fasten the angle ring so that the nodules of the angle ring will meet the hole in the cover. Turn the ring step by step and wedge it with a screwdriver.



NOTE! After installation, calibrate the unit.
See chapter Calibration procedure of the unit.

1.1.1 Reset the exposure counter, Sr 3

Each unit has the counter which counts the number of the exposures. The counter should be reset if the tube head has been changed. Enter the service mode.

Scroll with the arrow keys until “Sr3” appears on the display.

Press kV button to reset the exposure counter when the tube head has been changed. The unit beeps twice when the counter is reseted.

1.2 FOCUS™ 2.0

1.2.1 Changing the tube head (v1.6 and 2.0)

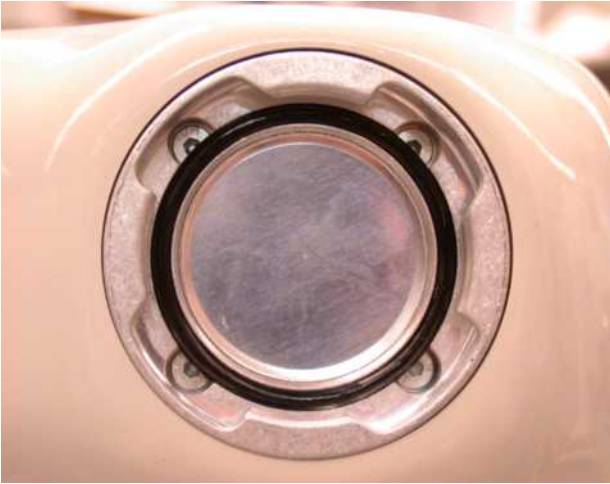
Tube head version 1.6 can be replaced with version 1.6 and version 2.0 or higher can be replaced with version 2.0 or higher.

NOTE! *Version 2.0 does not fit to units with tube head versions 1.3 to 1.6 because of the difference between main cables. Tube head version 2.0 with new scissor arm (main cable) does not fit with old horizontal arm with generator board version 1.2.*

1. Switch off the unit and disconnect from the main.
2. Release the angle ring with a screwdriver (size 1.2x6.5x125) and remove the back cover.



3. Remove the O-ring and the aluminum filter.



4. Remove the tube heads front cover, cable tie and tapes.

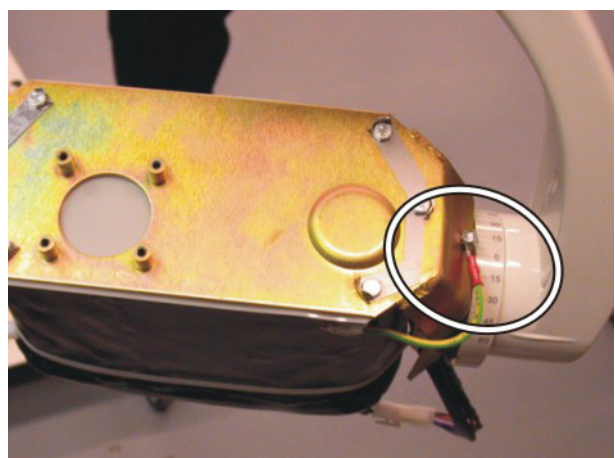
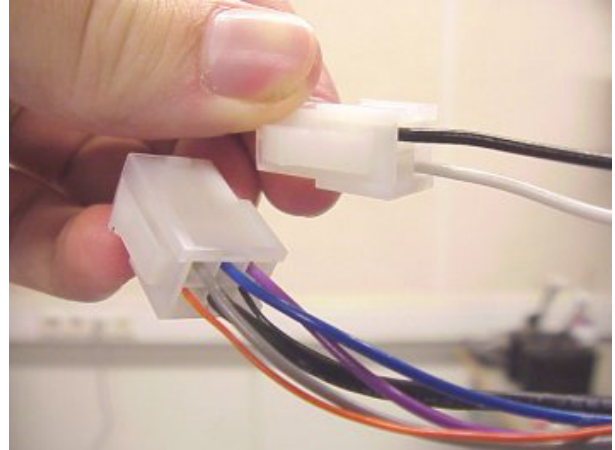
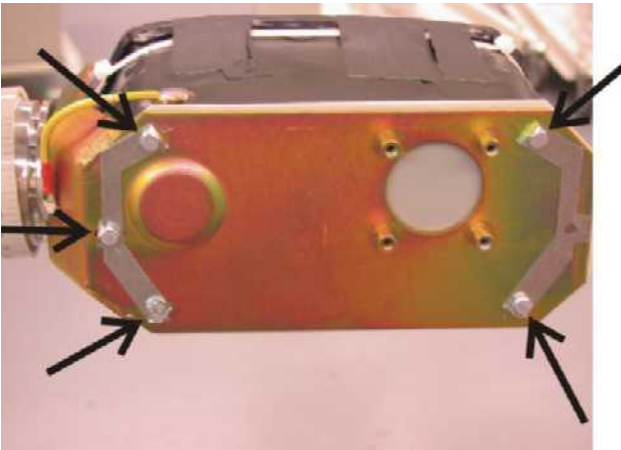


5. Detach the Molex connectors and ground cable from tube head. Disengage the bottom screws from the locking plates and remove the screws.
6. Replace the tube head with new one. Remember to put the mylar coat between the bracket and the tube head. Set the locking plates on the bottom of the bracket and tighten the screws with 0.5 Nm torque. Use torque wrench. Do not use any glues. Fix the locking plates around the bottom screws.

CAUTION!

Excessive tightening may damage the tube head.

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7. Connect the molex connectors and screw down the ground cable. Screw down the ground cable to the tube head bracket.
8. Bind the cables around the tube head with cable clamp and tape.
9. Attach the front cover and aluminum filter to the tube head. Set the O-ring in to the filter.



10. Put the back cover back in place.



- 11.** Fasten the angle ring so that the nodules of the angle ring will meet the hole in the cover. Turn the ring step by step and wedge it with a screwdriver.



CAUTION! After installation, calibrate the unit. See chapter Calibration procedure of the unit.

1.2.2 Upgrading the tube head (V1.3-1.5) to 1.6

- 1.** Switch off the unit and disconnect from the main.
- 2.** Remove the angle ring. Be careful not to scratch the covers.



3. Remove the back cover of the tube head.



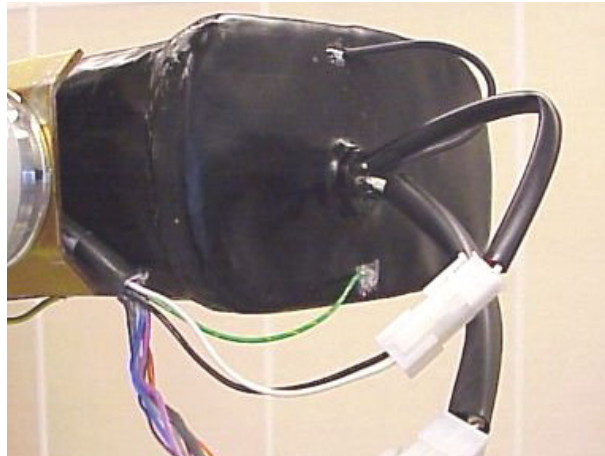
4. Remove the O-ring and the aluminum filter.



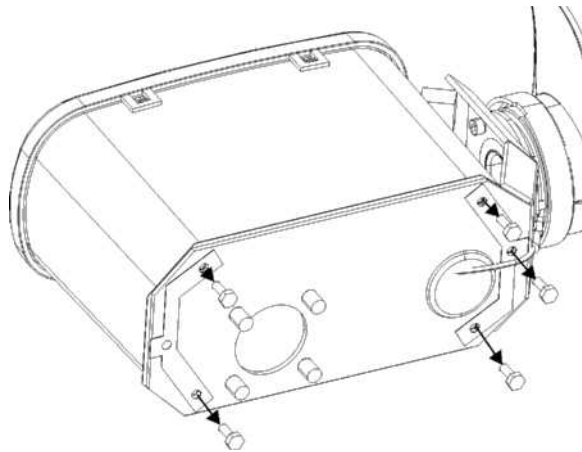
5. Remove the tube heads front cover, tapes and the cable tie.



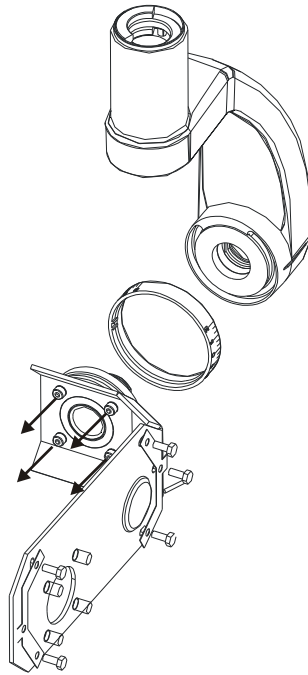
6. Cut the ground cable from the side of the soldered joint and unscrew the other ground cable from the tube head. Detach the Molex cable connectors.



7. Remove the screws and locking plates from the bottom of the bracket and remove the tube head.



- 8.** Remove the four screws from the base of the bracket. Remove the bracket. Set a new angle ring between the handle and the bracket.



- 9.** Place the main cable back to go through the bracket base hole and install the tube head bracket to the handle.

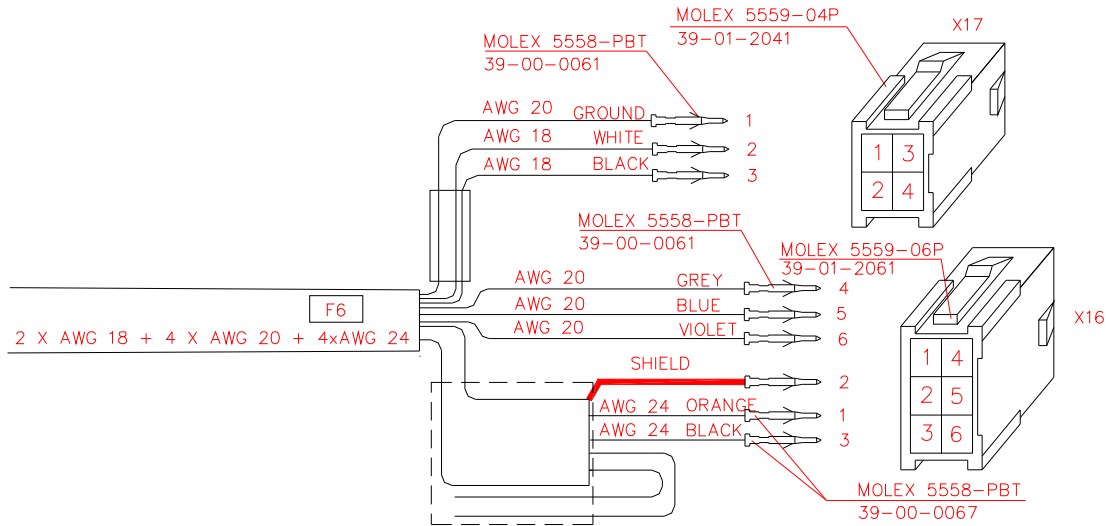


- 10.** Insert the new tube head in to the bracket and remember to set the mylar coat between the tube head and the bracket. Set the locking plates on the bottom of the bracket and tighten the screws with 0.5Nm torque. Use torque wrench. Do not use any glues. Fix the locking plates around the bottom screws.

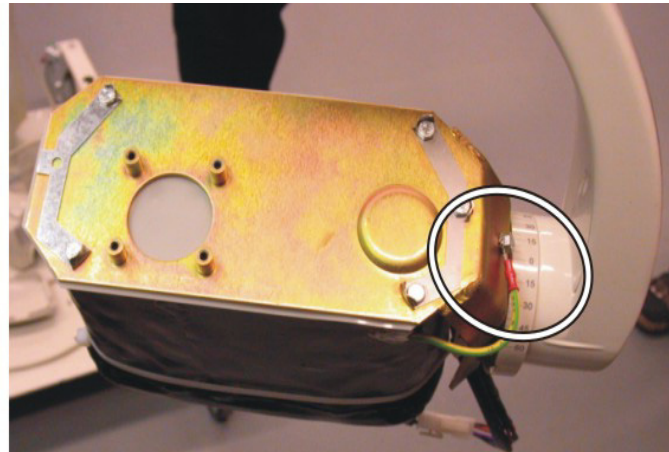
Excessive tightening or using glue may damage the tube head.

NOTE! If the removed tube head version was 1.3 or 1.4 the mylar coat has come with the spare part package.

11. Connect a Molex pin to the ground wire of the main cable with special pincers and connect the ground wire to Molex connector according to the diagram below.



12. Check after connecting the X17 connector into its counterpart that GND wire pins matches.



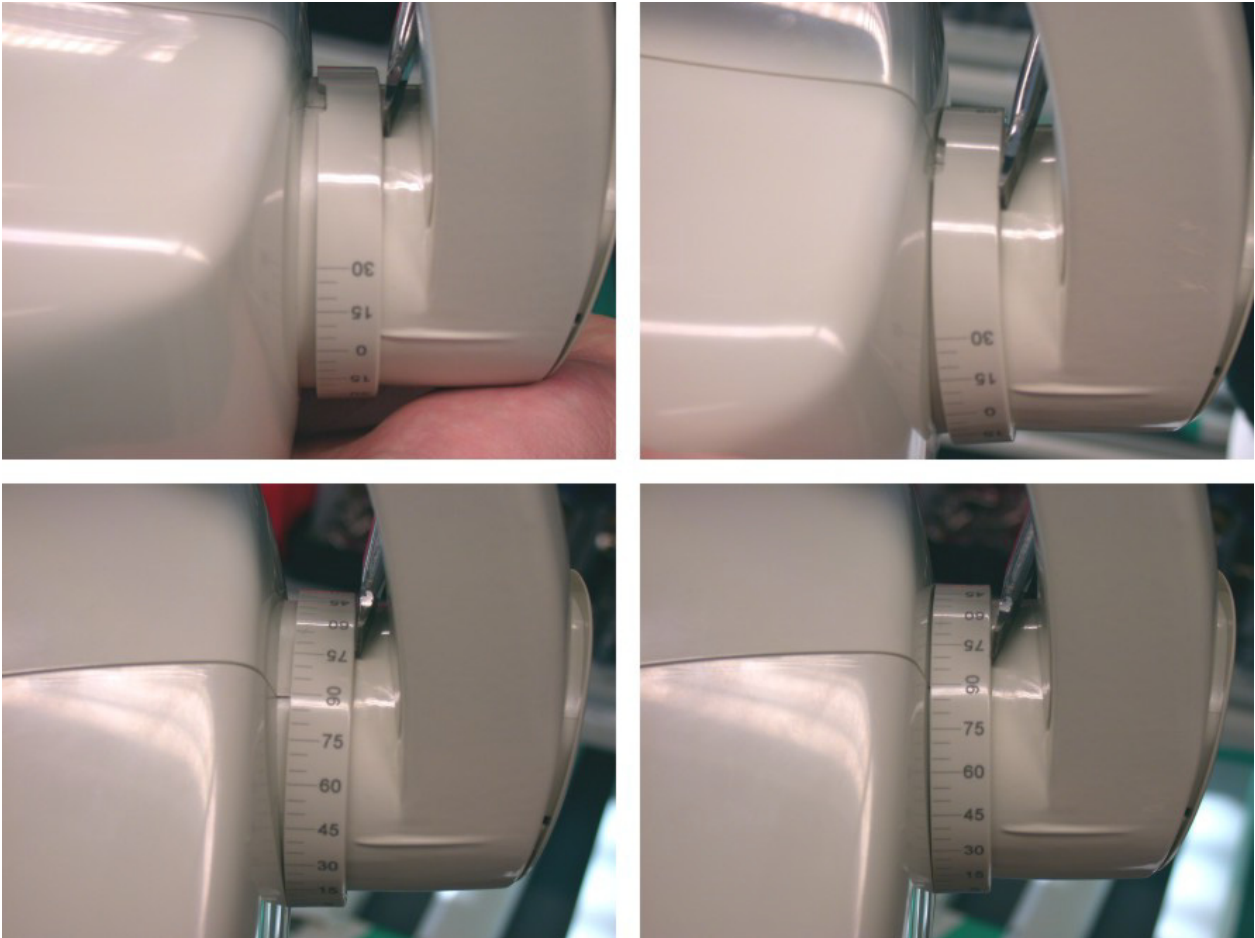
- 13.** Attach the front cover and aluminum filter to the tube head. Set the O-ring in the filter.



- 14.** Put the back cover back in place.



- 15.** Fasten the scale ring so that the nodules of the scale ring will meet the hole in the cover. Turn the ring step by step and wedge it with a screwdriver.



CAUTION! After installation, calibrate the unit. Refer to chapter Calibration procedure of the unit.

1.2.3 Reset the exposure counter, Sr 3

Each unit has the counter which counts the number of the exposures. The counter should be reset if the tube head has been changed. Enter the service mode.

Scroll with the arrow keys until “Sr3” appears on the display.

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