Required Materials

- Shipping kit 514-00097A: You need the three pieces of black tubing from the kit (see Figure 1). This kit is included with every TH3 head.



Figure 1: Black tubing

Note: This tubing is *not* reusable. It is suitable for one use only, because the tubing may grow bacteria if not cleaned very thoroughly.

- Closed, clean, sealable container with a narrow top for the waste coolant. The container must *not* be galvanized steel, and must comply with local hazardous materials disposal requirements. You may use the jug of coolant for the chiller, if available.
- Paper towel

BACKGROUND

The Thermal 3 head contains approximately 125 ml of coolant (approximately half a cup). The coolant may freeze during transport, pressure may build during storage due to bacteria

growth, or corrosion may occur during storage. Any of these situations can cause internal leaks and cracks in the head cooling system.

WHEN TO DRAIN THE COOLANT

- When storing the head after it has been used in an output device
- Any time the head needs to be shipped

PROCEDURE

CAUTION:

The head must be on a clean, level surface in a well-ventilated area.

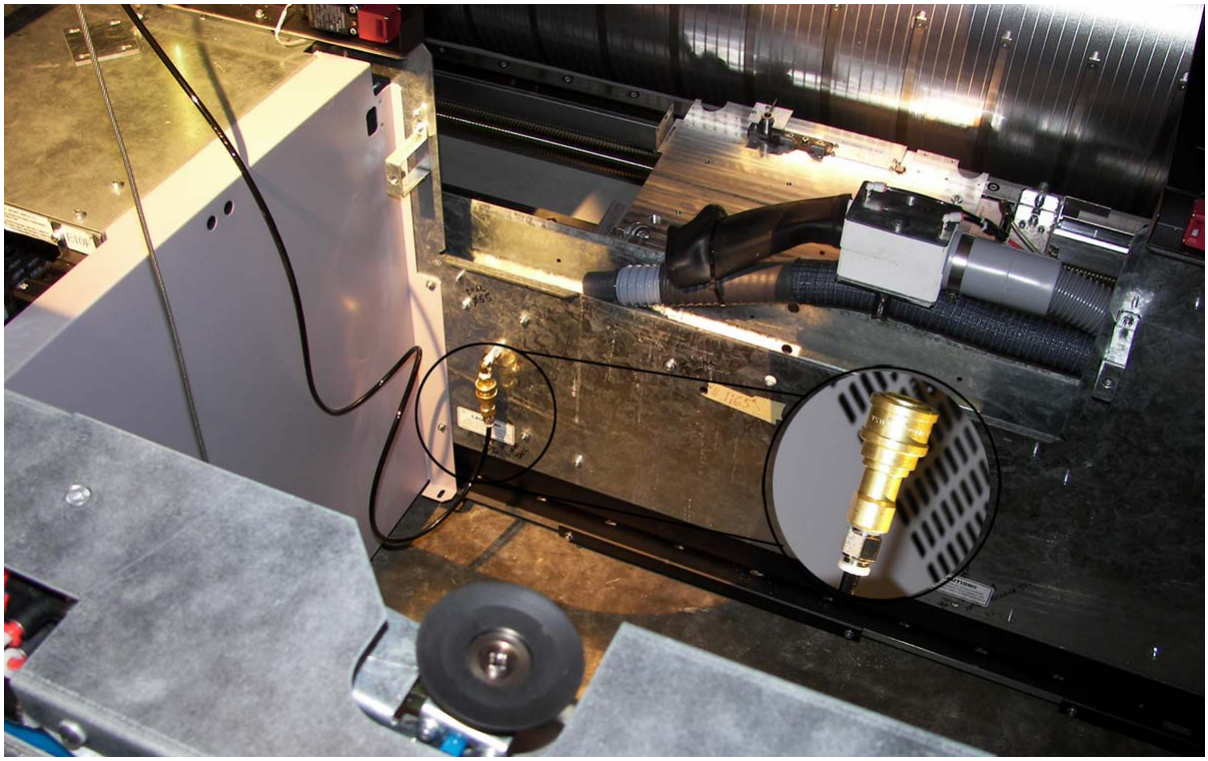
Wear appropriate protective clothing, such as gloves, goggles, and so on.

Avoid getting coolant on your eyes, skin, or clothing. Avoid breathing vapor. Handle in an area with adequate ventilation.

Wash hands thoroughly after handling.

Do not drink the coolant solution. Accidental poisoning can cause central nervous system, cardiopulmonary, and kidney effects.

1. Remove the head from the device. The head must be on a clean, level surface in a well-ventilated area.
2. Disconnect the air connector for the lifting jig as shown.



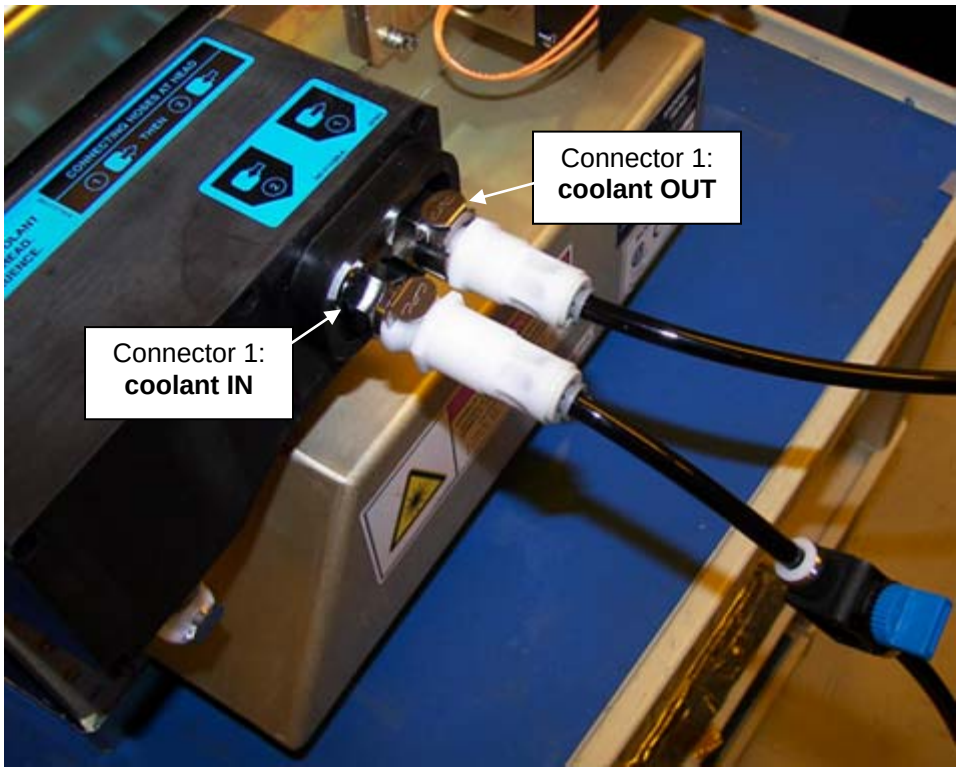
3. Remove the copper air fitting.
4. Attach the copper air fitting to one end of the long piece of black tubing(PN 56-1048, 2.5m).



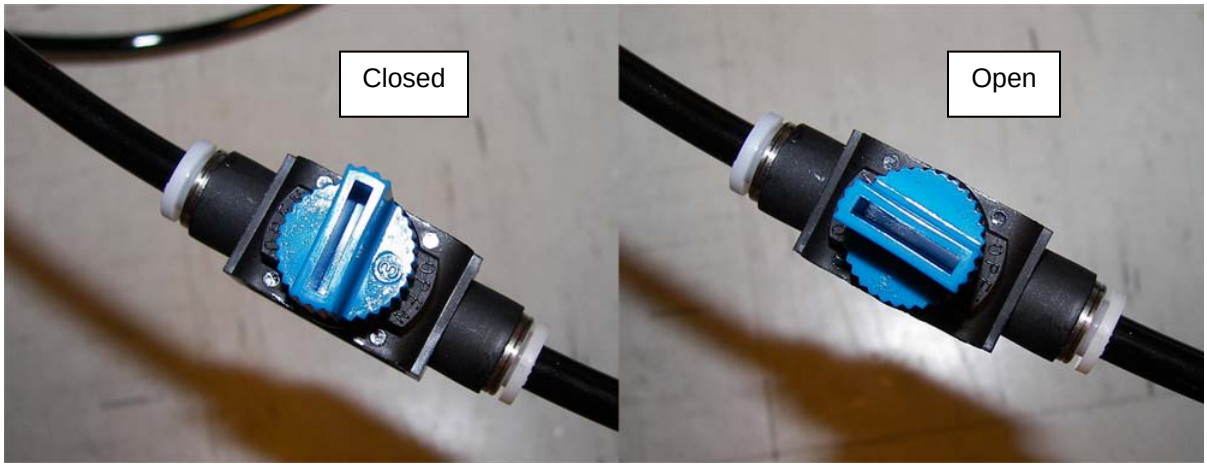
5. Connect the two quick-disconnect fittings to the coolant connectors on the head.



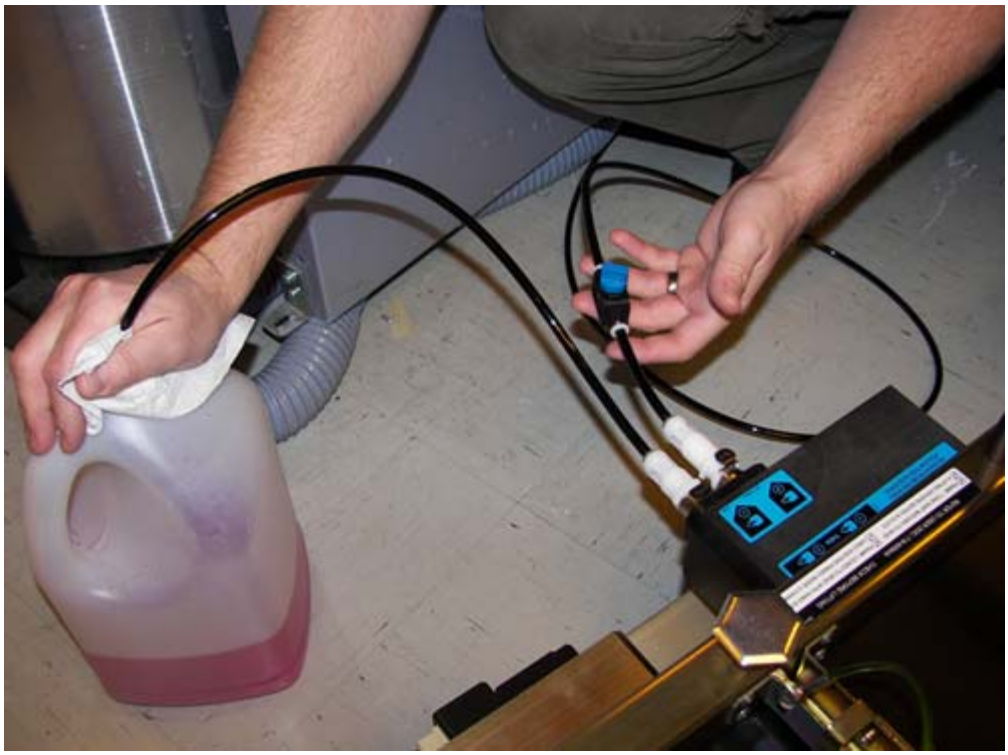
6. Attach the pneumatic valve (included in the kit, PN 55-0424) to the open end of the long piece of tubing (PN 56-1048, 2.5m). Connect the short length of tubing(PN 56-1048, 4 inches) to the other end of the valve and attach this to the ingoing coolant connector (connector 2).
7. Connect the medium-length tube (PN 56-1048, 0.6m) to the outgoing coolant connector (connector 1).



8. Re-connect the copper air fitting to the device.
9. Make sure that the valve is *closed*.



10. Set up the drain: direct the open end of the long piece of tubing into the waste container as shown. Hold a piece of paper towel over the top of the container.



11. Turn on the device air.
12. While firmly holding your hand over the jug, slowly open the valve as shown. Coolant will flow out of the other connector and into the waste container. Expect approximately 125 ml (half a cup) of coolant.

CAUTION: If you open the valve fully, the coolant may splash or spray. To prevent injury, keep the waste container covered.

13. Wait approximately 15 seconds for all the coolant to come out.
14. Close the valve.
15. Unplug the copper air fitting from the device.
16. Seal the waste container and disconnect the air quick-connect.
17. While holding a paper towel underneath the connectors, remove the tubing from the head as shown.



18. Dispose of the coolant in accordance with local hazardous materials disposal requirements or, if it's clear of debris, pour it back into the jug of coolant.

First Aid

Ingestion:

If coolant is swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

Note to Physician:

Early administration of ethanol may counter the toxic effects of ethylene glycol (cardiopulmonary effects attributed to metabolic acidosis and renal damage). Hemodialysis or peritoneal dialysis have been of benefit. For additional information, consult the Material Safety Data Sheet for this product, which is available on site.