FCO CA11809: ThermoFlex Wide I Coolant Upgrade

Document number: 719-00837A Rev A

Product

- Kodak® ThermoFlex® Wide I

FCO priority

Upon customer request

Background

Some regions or customers may have health, safety, and environment (HSE) regulations that restrict the use of ethylene glycol at particular sites. Any ThermoFlex Wide customer that requests an upgrade to HSE-friendly propylene glycol should be upgraded.

Solution

Replace the fittings and hoses that are not compatible with the new coolant. Replace the coolant.

Time required

2 hours

Parts required

Part Number	Part Name	Quantity
512-00432A	Coolant upgrade kit FX1	1

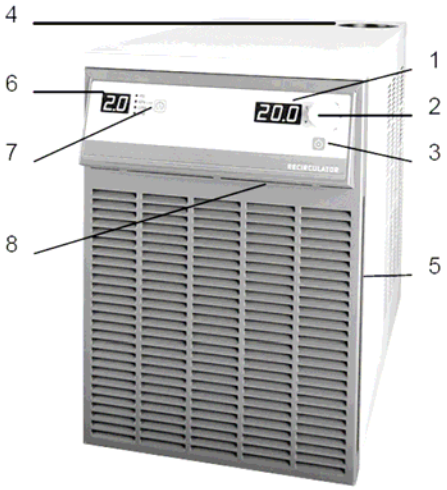
Tools required

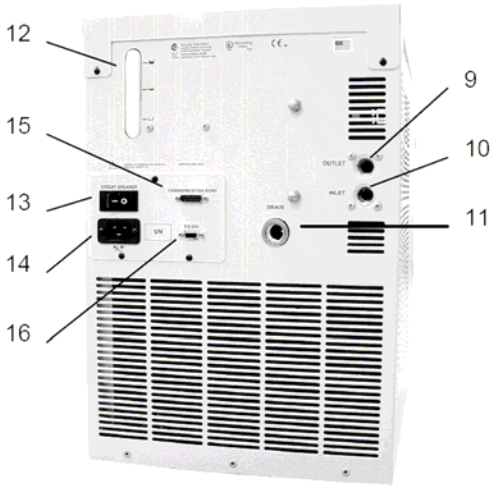
- Hex key set
- Flat-head screwdriver
- Paper towel
- Combination wrench set or adjustable wrenches

Procedure

Draining the Coolant from the Cooling System

1. Open the flash cover completely.
2. Remove both rear side panels of the device.
3. Unlatch and open the table.
4. Use the rod to prop the table up.
5. Use the power button (# 3 in photo) to turn the chiller off.
6. Disconnect the hose from the inlet coupler (#10 in the photo) on the back of the chiller.





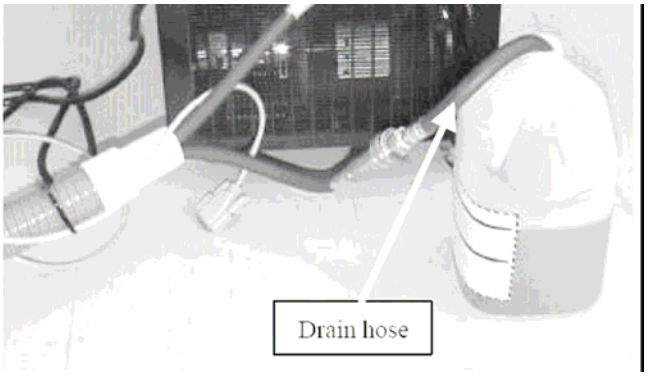
Front/Top

1. Temperature Display
2. Select/Set Knob
3. Power Button
4. Reservoir Cap and Internal Fluid Filter (top)
5. Air Filter
6. Pressure / Flow Rate Display
7. Units / Menu Select Button
8. Ambient Tracking Probe Connection (optional)

Rear

9. Fluid Outlet
10. Fluid Inlet
11. Drain
12. Reservoir Fluid Level Gauge
13. Circuit Breaker / Power Switch
14. IEC Power Connection
15. Remote I/O Connection (optional)
16. RS232 / RS 485 Connection (optional)

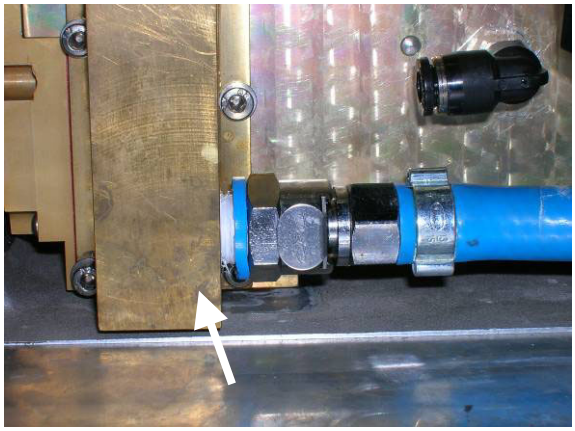
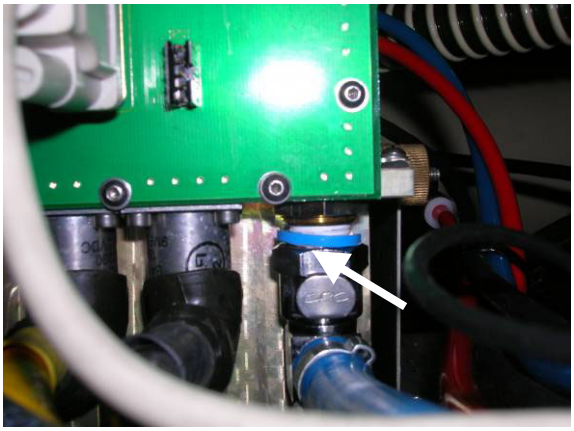
7. Connect the drain hose (attached to the hose assembly with a cable tie) to the disconnected hose.
8. Place the open end of the drain hose in an empty 4-liter container.



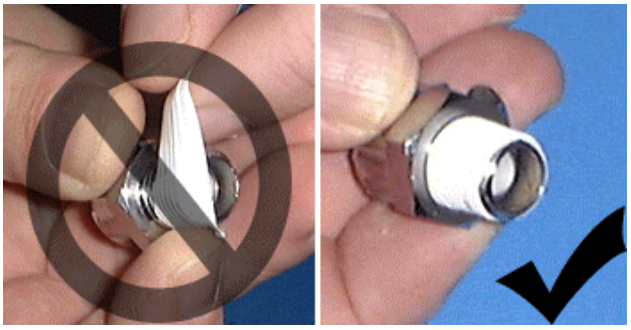
9. Use the power button to turn the chiller on and wait until the coolant stops flowing.
10. Turn the chiller off.
11. Pour 1/3 of a jug of the new yellow coolant (090-00326A) into the chiller reservoir. Repeat steps 9 and 10.
12. Turn off the chiller circuit breaker (#13 in photo).
13. Unplug the chiller power cord.

Checking for Upgraded Head Coolant Couplings

1. Blue rings on the inlet and outlet fittings on the head indicate that the head couplings are compatible with the new coolant. If the blue rings are present, go to the next section—*Upgrading the External Hoses and Chiller Couplers*.

2. If the blue rings are not present on the fittings, replace the head couplings.
3. Open kit 512-00325A and remove the two new coolant connectors (336-00301).
4. Cover the threaded portion of the new connectors with the Teflon® tape (56-3396) in the kit:
   a. Wind the tape clockwise around the threads (in the same direction as the threads).
   b. Make sure that there are at least two layers of tape and that you carefully align the tape with the end of the connector.



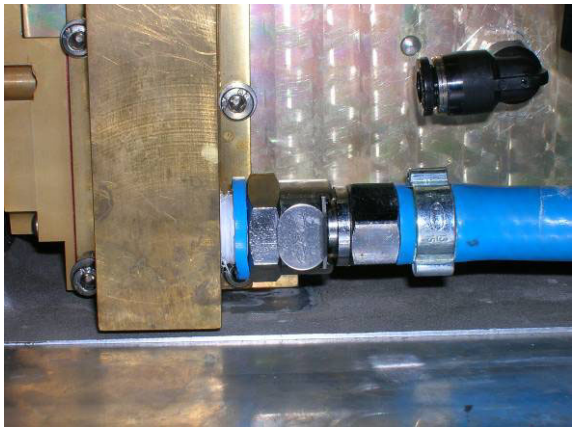
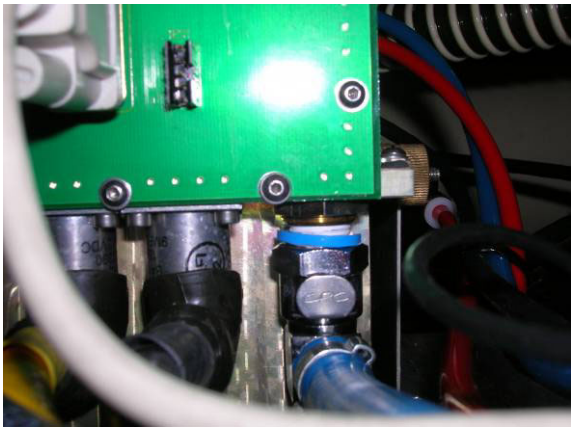
5. Mount a blue washer (304-00234) on the end of each new connector.



6. Using the ¾-in. socket (690-00600B) in the kit and a ratchet or adjustable wrench, unscrew both coolant connectors from the thermal head.
   Be careful not to damage the hotlink (BNC) connector when removing the coolant connectors.

   Note: For the socket to fit properly, you must press the release button on the top of the connector.

7. Carefully clean any remaining sealant from the threaded connector holes.
   Make sure that there is no debris on the threading inside the thermal head.
8. Thread the new connectors into the thermal head until they are finger-tight.
9. Using the ¾-in. socket (690-00600B) in the kit, tighten the connectors at least one more full turn or until the connector is 4 mm from the thermal head. If necessary, keep turning until the fittings are oriented as shown.

Upgrading the External Hoses and Chiller Couplers

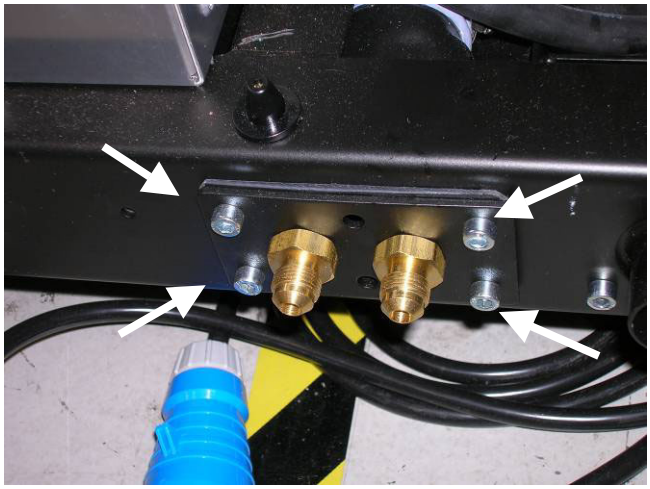
1. Disconnect the remaining coolant hose from the chiller.
2. Disconnect the drain hose from the coolant return hose and discard it. Note how the drain hose is secured so that you can attach the new one in the same manner.
3. Use cable ties to secure the new drain hose (50-1628B) to the hose assembly.
4. Remove the quick-connect couplers from the ends of the disconnected hoses.
5. Clean the tapered threads on the hoses of any old sealant, apply Teflon tape to the threads, and attach the new couplers (336-0401) from the kit.
6. Remove the quick-connect couplers from the chiller.
7. Clean any old sealant from the threads of the 90° elbows on the chiller, apply Teflon tape to the threads of both elbows, and install the new couplers (336-0402) from the kit.

   Note: Make sure to replace the respective couplers with the same type as the old ones.

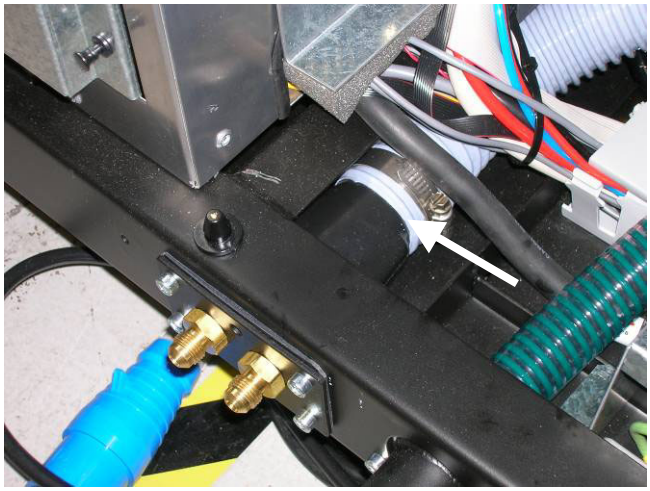
8. Reconnect the coolant hoses to the chiller.

Replacing the Internal Hoses

1. Remove the four screws that hold the coolant hose bulkhead in place.

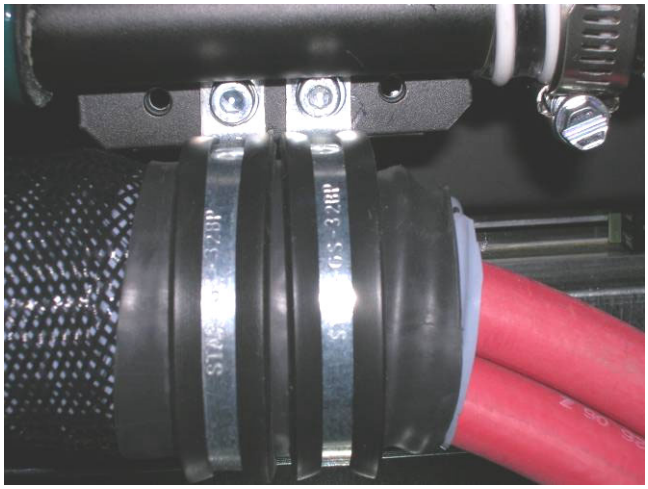


2. Pull the bulkhead away from the device, and undo the fittings of the internal hose.
3. Undo the gear-type hose clamp from the end of the grey hose.

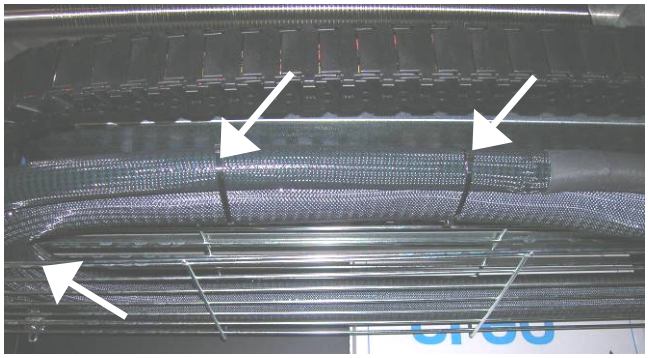


4. Disconnect the coolant hoses from the thermal head.

5. Disconnect the hose clamps that hold the internal hose assembly to the carriage.



6. Cut all of the cable ties that hold the internal hose assembly in place, remove the internal hose assembly from the device, and discard it.



7. Lay the new hose assembly inside the wire hose tray.
8. Connect the hose assembly to the carriage using the hose clamps removed in step 5.
9. Connect the new hose couplings to the head.
10. Route the hose assembly in the same way as the old hose assembly. Use cable ties to hold the hose in place.
11. Slide a hose clamp over the trailing end of the grey hose, slide the end of the grey hose over the molded plastic boot, and then tighten the clamp to hold the hose on the boot.
12. Connect the coolant hoses to the bulkhead fittings and then tighten them.
13. Reattach the bulkhead to the frame using the four screws that were removed in step 1.

Refilling the Cooling System with the New Coolant

1. Remove the cover plate from the top of the chiller and then remove the reservoir cap.
2. Fill the reservoir with the premixed coolant (090-00326A) up to the **MAX** line on the chiller reservoir's fluid level gauge.
3. Plug in the chiller.

4. Turn on the circuit breaker on the back of the chiller.
5. Turn on the chiller.
6. As the cooling system hoses fill with coolant, the level in the reservoir will go down. Add coolant slowly until the level remains stable.
7. Check for leaks, especially around the newly installed hoses and fittings.
8. Close the chiller reservoir cap.
9. Clean an area near the reservoir cap with a clean cloth or wipe and 50/50 isopropyl alcohol/water.
10. Apply the label from the kit to the clean location.

Material disposition	Dispose of the old (pink) coolant, hoses and fittings, in compliance with local regulations. If a hazardous material depot is not available to receive the used coolant, send it back to Vancouver for proper disposal.
Technical contact	John Funk
Date submitted	14 Mar 2007
Last updated	08 May 2007