

Installation Instructions

Steri-Cycle IR CO₂ Sensor Retrofit Kit 1900380

Models:

Forma Steri-Cycle: 380, 381, 380GP, 381GP

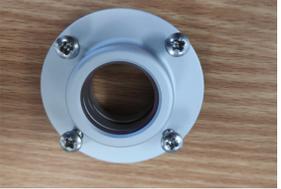
Napco 8000: 3542, 3543

VWR Private Label: VWR51014992, VWR50114903

Instruction Sheet 7900380

0	ECNM-000218	12/31/2019	Initial release	TFI
Rev.	ECR/ECN	Date	Description	By

Bill of Material

S.no	Part number	Materials	
1.	103146	IR CO ₂ Sensor Gasket GMP251	
2.	231238	IR CO ₂ Sensor	
3.	231243	IR CO ₂ Sensor Mount	
4.	244115	Silicone Sleeve	
5.	350203	Low Voltage Harness / CO ₂ Sensor Cable	
6.	1900098	380/381 Access Door Assy	
7.	1900325	IR Adapter Ring	

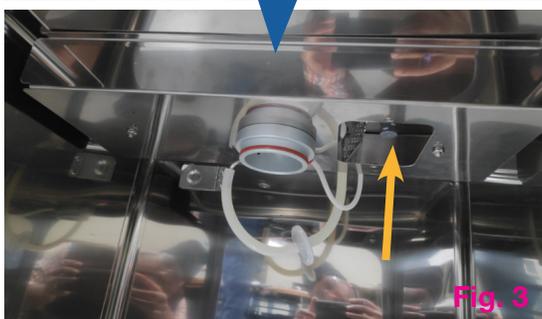
Required Tools

1. #1 Phillips screwdriver
2. #2 Phillips screwdriver
3. 3/8 socket or nut driver
4. 5/32" Allen key
5. #6 nut driver
6. 7/16 open end/box wrench
7. 7/16 socket or nut driver
8. 11/32 socket or nut driver
9. 370 Wheel Puller Assembly – Part 1900431

1. Turn the incubator off and disconnect it from the power source.
2. Inside the chamber, remove the shelves, side ducts, shelf supports and humidity pan. Disconnect the air sample port tubing from the back of the HEPA adapter. Pull the temp probe from the back of the HEPA adapter. (Fig. 1)



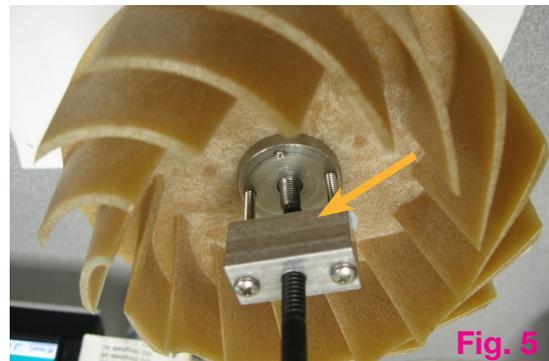
3. Remove the HEPA filter, if applicable. Retain, or replace filter for re-assembly.
4. Inside the chamber, turn the two ¼ - turn thumbscrews until the CO₂ sensor cover plate is disengaged from the top duct. (Fig. 3).



5. Remove the 7/16 nuts securing the top duct. (Fig. 4) Remove the duct from the chamber.



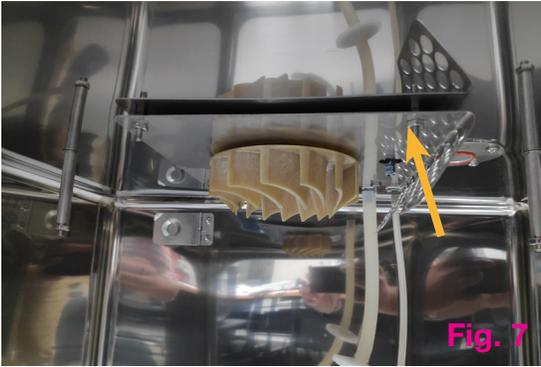
6. Remove the LEFT-HANDED 7/16" threaded nut from the blower wheel. (Fig. 5) Retain wheel for assembly.



Note: Position the wheel puller (Fig 5) on the blower wheel as shown in Fig 5. Tighten the two screws to secure it to the blower wheel. Then carefully use the supplied wrench (Fig 6) to turn the puller inward to "pull" the wheel from the motor shaft.



7. Remove the 7/16" nuts securing the Class 100 plate. Remove the blower plate from the chamber. (Fig. 7)



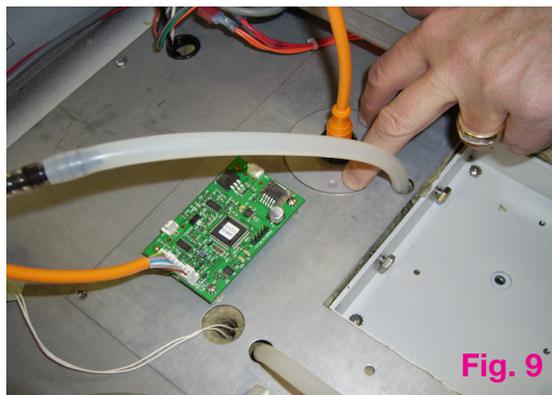
8. Grip the IR sensor and carefully pull it downwards. Unscrew the cable from the IR sensor. Discard the sensor. (Fig. 8)



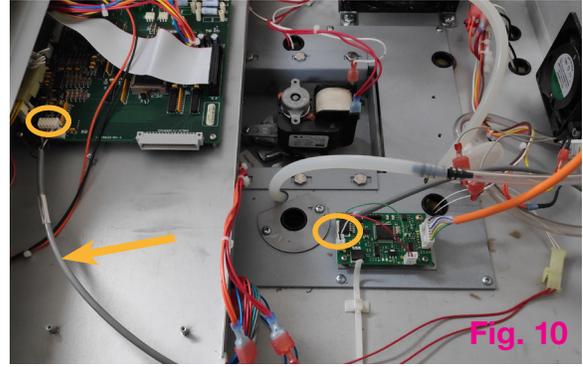
9. Locate the three screws across the exterior upper back of the cabinet. Remove the screws. Retain for re-assembly.

10. Slide exterior top backward about an inch and lift it off. Set aside.

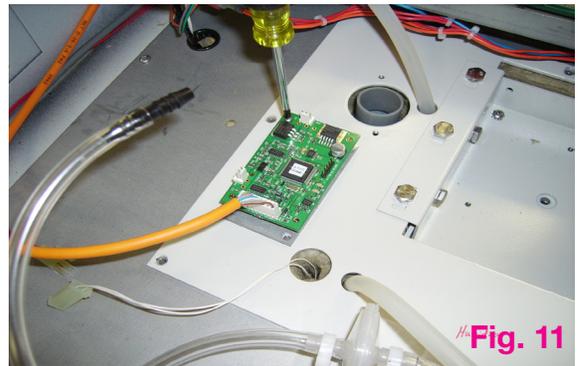
11. In the control drawer, locate the sensor cable (orange). Pull the IR sensor cable from inside of the chamber into the control drawer. Disconnect cable from the sensor board and discard. (Fig. 9)



12. Disconnect (gray) cable connected to J7 on Main PCB and sensor board. (Fig. 10)

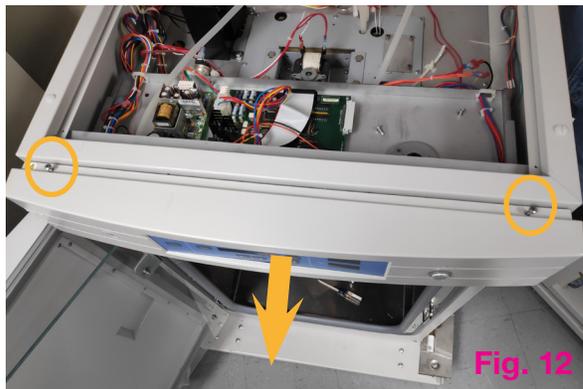


13. Using the #1 Phillips screwdriver remove the four screws and star washers from each corner of the CO₂ sensor board. (Fig. 11)

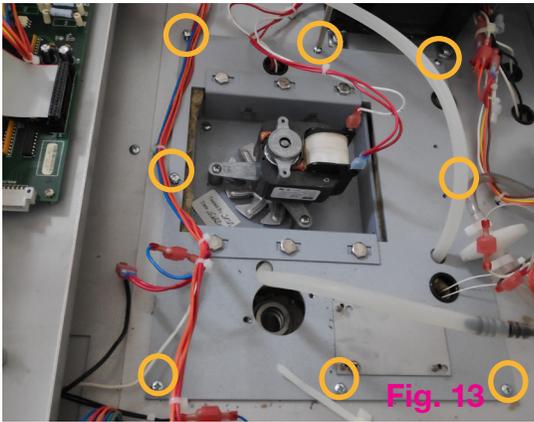


14. Lift the sensor board out and discard.

15. Remove the two screws from the top of the drawer of the control panel as shown in the Fig. 12. Slide the drawer far enough to gain access to the insulation cover plate. (The plate has a cutout for the blower motor.) Do not pull on the wiring.



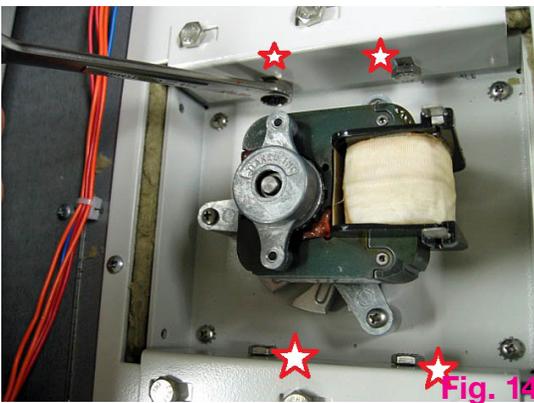
16. Using a #2 Phillips screwdriver remove the eight screws securing the insulation cover plate. (Fig. 13)



19. Carefully lift the plate. Ease the hoses down through the plate as it is lifted. Note the locations. (Fig. 16)

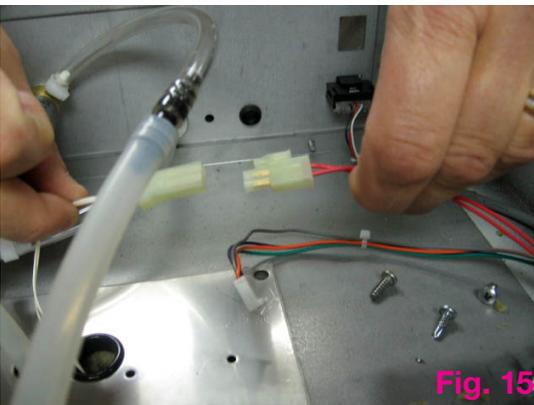


17. Remove the four bolts on the motor mount. (Fig. 14)



20. Lift the insulation on the right side. The CO₂ sensor mount should be visible. (Fig. 17)

18. Disconnect temperature sensor wiring. Remove CO₂ tubing from air sample port and from inject port. (Fig. 15)



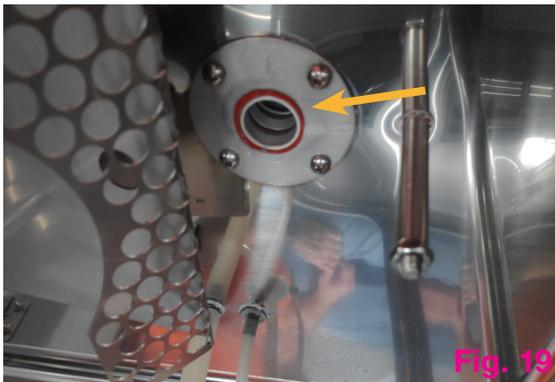
21. In the control drawer, remove the four nuts from the sensor mount area. Remove IR CO₂ sensor mount. (Fig. 18)

Note: The same nuts must be used when installing the new adapter ring.



22. Inside the chamber, remove the four screws from the sensor adapter ring. The screws have nuts in the control drawer area under the insulation that was previously removed. (Fig. 19)

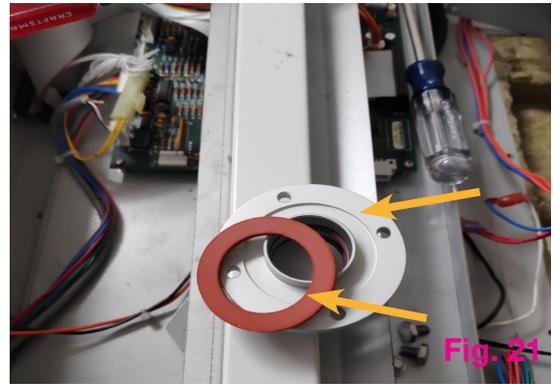
Note: The same screws must be used when replacing new adapter ring.



23. Peel off sealant on the chamber and clean surface. (Fig. 20)

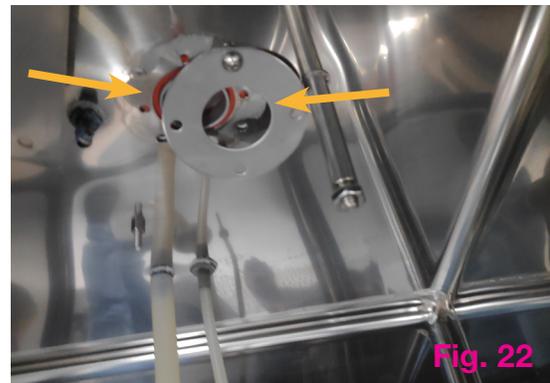


24. Remove CO₂ sensor mount from packaging, discard screws. Place gasket over ID flange of mount. (Fig. 21)



25. Apply grey silicone (RTV) on concave side of adapter ring around center of hole. Place two screws opposite each other in the adapter ring. Place adapter ring over the hole against interior ceiling where previous adapter ring was removed. (Fig. 22)

Note: Use only old machine screws and do not use screws from the manufacturer.



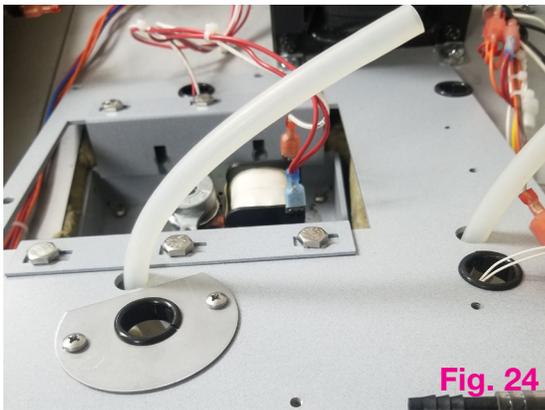
26. Align holes in sensor mount/gasket with the screws in the adapter while placing over the holes in the control drawer area. Loosely secure a nut on each of the screws. Install remaining two screws from the interior ceiling through the holes in the adapter ring into the sensor mount/gasket on the top of the unit. Secure nuts on the screws.

27. Push straight end of silicone sleeve over sensor mount.

28. Place the insulation back into the cavity. (Fig. 23)



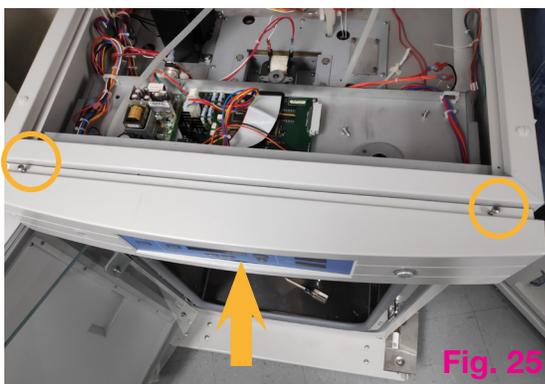
29. Ease the hoses up through the plate and install the plate into the previous location. Install any wiring removed from the snap bushings. Do not cut or scrape any hoses or wires when re-installing the plate. Secure the plate with all screws eight screws. (Fig. 24)



 **Caution:** Ensure no wires or tubes get caught beneath the bracket.

30. Reconnect CO₂ tubing to air sample port and CO₂ inject port.

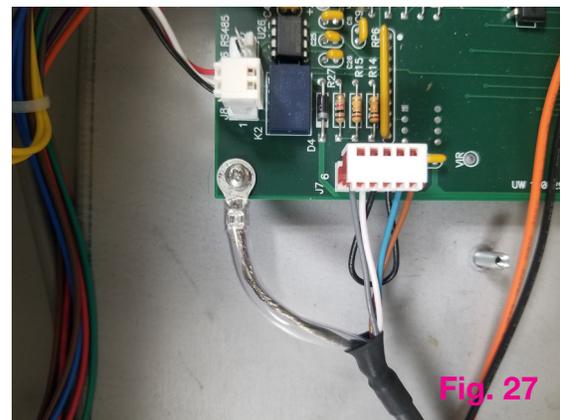
31. Slide control back into unit and secure with the two screws. (Fig. 25)



32. Place the new sensor cable through the sensor port into the chamber. (Fig. 26)



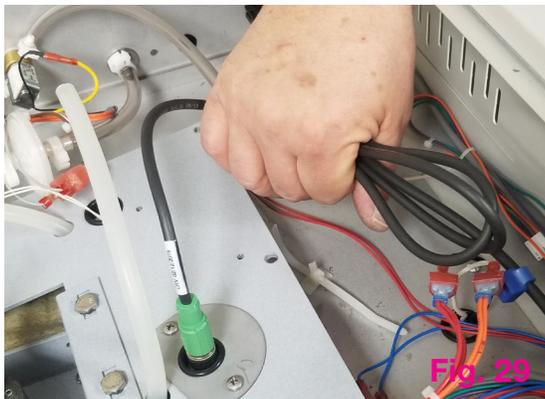
33. Connect sensor cable to main board (J7). Remove mounting screw from front corner next to connection J7 of micro-board and connect ground from sensor cable. (Fig. 27)



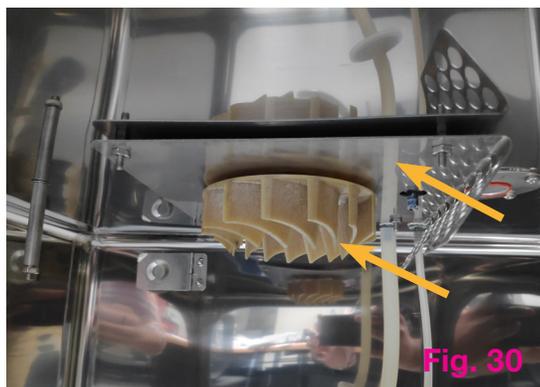
34. Screw the cable onto the top of the IR sensor. Install the sensor by pushing it as far as it will go into the hole. (Fig. 28)



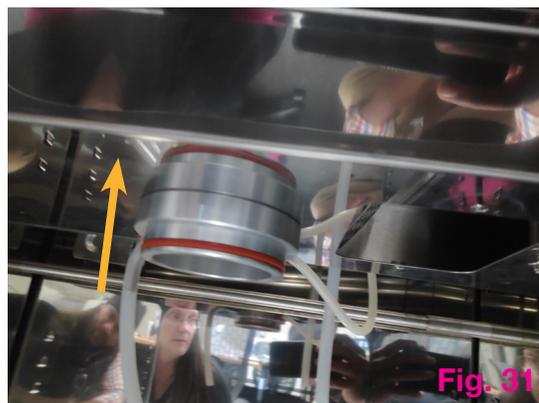
35. Hank the sensor cable and attach to control drawer with a tie wrap. (Fig. 29)



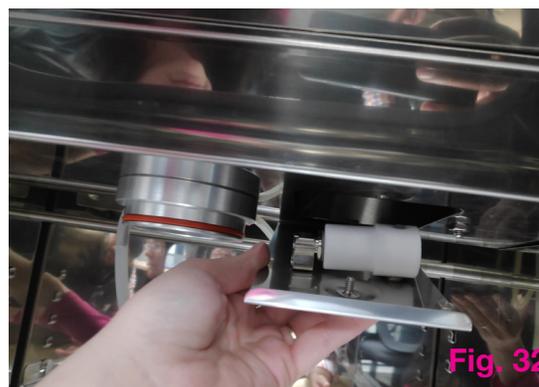
36. Inside the chamber, reinstall the Class 100 plate and blower wheel. Remember this is LEFT-HANDED thread. (Fig. 30)



37. Reinstall the top duct to the chamber ceiling. Ensure the tubing and sensor are passed through holes in duct. Connect air sample port tubing to the back of the HEPA adapter. Install the temperature probe. (Fig. 31)



38. Install new cover plate to the top duct. Secure using the 1/4 turn fasteners. (Fig. 32)



39. Place the shelves, side ducts, shelf supports and humidity pan.

40. Slide the top cover on and install the three screws on the back.

41. Connect the incubator to power and turn it on.

Find out more at thermofisher.com