



## Using the Incubation System (Zeiss 710)

### Turn on Sequence (if confocal system is off)

1. If CO<sub>2</sub> is needed: Open valve on CO<sub>2</sub> tank (14–29 psi) and flip tank sign to *on*.
2. If O<sub>2</sub> control is needed (other than 20%), open valve on N<sub>2</sub> generator in hall.
3. Turn on Temperature Module S (Switch in back).
4. Turn on confocal system, Follow normal turn on sequence.
5. Set incubator stage on microscope. Bring heated bottle closer to microscope.
6. Wrap objective heater around objective (only for 25x, 40x or 63x).

### Turn on Sequence (if confocal system is on)

1. Follow 1-2-3 above.
2. Turn Microscope Power Module off and on again (lowest box on left next to 488 laser power unit).
3. Set incubator stage on microscope. Bring heated bottle closer to microscope.
4. Wrap objective heater around objective (only for 25x, 40x or 63x).

### Incubator Control with Touchscreen

1. Home > Microscope > Incubation
2. Set desired temperatures, often set a bit higher than required (for 37 degrees C, set to 40 degrees C). The actual temperature is also displayed.
3. Set CO<sub>2</sub> and O<sub>2</sub> levels. Usually use: 5% CO<sub>2</sub>, 20% O<sub>2</sub>

## Incubator Components

Temperature Channel	Component
Channel 1 or H Dev	heated bottle for humidity
Channel 2 or Inc	heated stage cover
Channel 3 or H Insert P	stage bottom
Channel 4 or Obj Heater	objective heater

## Hardware

- We have 2 stages for incubation:
  1. For heating only
  2. For either cooling or heating with attached objective control (has tubes attached to chiller = Y-module)
- We have 2 objective heaters:
  1. For the 63x oil lens (small)
  2. For the 40x or 25x lens (large)

These objective heaters plug into the back of Temp/Gas modules.
- We also have a clear plastic, unheated stage cover.
- You can use the thermocouple to monitor the actual temperature (or very close to actual) in your dish.
- You can also control the incubators with the Zen software: In the Locate tab. Open the Incubator tab. Check required heating modules and set required temperature and gas concentration.

## Ending Session

1. In either Zen or the touchscreen monitor, turn off /uncheck heating modules used.
2. Turn off Temp Module S.
3. Remove incubator from stage.
4. Close CO2 tank and N2 generator.
5. Flip CO2 tank sign over.
6. Continue with regular “end of session” or shutdown procedures.