Bio-Spherix In-vitro Hypoxia system Basic operation

To turn on the system

(For all users)

1. Turn on the N₂, O₂& CO₂ gas cylinders.

To turn on the gases, turn the **main switch** of the gas cylinder in **anti-clockwise** direction.

Do not change the regulator setting (pressure not over 20 psi).

Please kindly inform the FCF staff if the regulator displays gas level less than 300psi.



- 2. Put your culture plate/dish into the chamber. Refill chamber's water tank with autoclaved water when necessary.
- 3. Open the"Watview" in the computer.

WatView - [Control]				_8_
File System Recipe Event Logs	Trend Plot View Tools Help			
Last Recipe Downloaded Test				
Dissolved Oxygen 1 Process: 400 Setpoint: ntrol Mode not Aa Control Mode: Manual	Select Incubator/Parameter Incubator 1 02 Process: Setpoint: Control Mode Control UP Control Down 0.000 % Set at 0 if Control Mode = Manual	Incubator 1 Pump Off Incubator 2 Pump Off Pump must be on when controlling	Control Calibration Setup	

4. Turn on the pump of the incubator you need to use.

Incubator 1 Pump Incubator 2 Pump	Off 4	.1 Double click	
Pump must be on when	controlling		
-			
CLS204-RS(#11) Output 21			
State			
Off On	4.2 Select "C)n"	0
Make a selection			
	4.3 Click "Send"		
Send Cancel Help			

5. Select the "Incubator/Parameter" you need to use.

Incubator 1 O2	-
Incubator 1 O2	
Incubator 1 CO2	este ste ste ste ste ste ste
Incubator 2 O2	
Incubator 2 CO2	
N/A	

6. Select Control mode to "Auto".

X

Control Mode Manual	Pump mu	L Double clic	k	
Control Down	1			
0.000 %	Incubator 1 02			
trol Mode = Man	Control 9	Status		
	Manual	-		
	Manual		5.2 Se	lect "Aut
	Auto			
	Lindie			
-		5.3 Click "S	end"	
	Send Cance	a Teib		

7. Enter O_2/CO_2 set point.

Control UP	Control Down				
0.000 %	0.000 %	- Incubator 1 02-			
Set at 0 if Con	trol Mode = Man	Setp	er	.g. for 1.0% Iters 1.0)	
		Range: -0.9	to 640.0		

- 8. Repeat Step 4 to 6 for the "Incubator/Parameter" you need to use.
- 9. Check the process value to see the $O_2 \& CO_2$ levels are reaching your set point.



(Continues on next page)

(Step 10 to 14 for users need to use the profile control for intermittent hypoxia experiment only)

10. Select Tools \rightarrow CLS200/MLS300 Profile Control



11. Download the profile for the "Incubator/Parameter" you need to control. (If you do not have the profile, please contact FCF staff.)

ile Operation Setup	Help				
	Profile		Statu 11	.1 Right cli	ck 🛛
Incubator 1 02	<none></none>		<n a=""></n>	_	
Incubator 1 CO2	<none></none>		<n a=""></n>	11.2	Click "Download
Incubator 2 02	<none></none>	Downloa	ad 🔶		
Incubator 2 CO2	<none></none>	Edit	>		
N/A	<none></none>	10000	SN782		

12. Open the profile need to be used. (In the "Oxycycler Profiles" folder on the desktop)



13. When the profile is loaded and the status is "Ready", start the profile by select "Run".

file Operation Setu	ip Help	-	1	3.1 Right click
	Profile	Status	Segment	
Incubator 1 02	120hrs 1point5 o2 4h 21o2 4h	Ready	Ready	
Incubator 1 CO2	<none></none>	<n a=""></n>		12.2 Click "Pup"
Incubator 2 02	<none></none>	<n <="" td=""><td>Rup</td><td>15.2 CIICK RUI</td></n>	Rup	15.2 CIICK RUI
Incubator 2 CO2	<none></none>	<n <="" td=""><td>Hold</td><td></td></n>	Hold	
N/A	<none></none>	<n <="" td=""><td>Continue</td><td></td></n>	Continue	
	12	0	Terminate	
			Upaccian	

14. When the profile is running, the program will show the "Profile Time Remaining" and

"Cycle Number".

The profile can be pause by selecting "Hold" or stop by selecting "Terminate".

File Operation Setu	ıp Help			Right click		
	Profile	Status	Gegment	Segment Lime Remaining	Profile Time Remaining	Cycle Number
Incubator 1 02	120hrs 1point5 o2 4h 21o2 4h	Run	Segment 1	00:00 h:m	07:55 h:m	1 of 15
Incubator 1 CO2	<none></none>	<n a=""></n>				
Incubator 2 02	<none></none>	<n a<="" td=""><td>Run</td><td></td><td></td><td></td></n>	Run			
Incubator 2 CO2	<none></none>	<n a<="" td=""><td>Hold</td><td></td><td></td><td></td></n>	Hold			
N/A	<none></none>	<n a<="" td=""><td>Continue</td><td></td><td></td><td></td></n>	Continue			
· · · · · · · · · · · · · · · · · · ·			Terminate	30		
			Unassign			

End for turn on the system

(Continues on next page)

To turn off the system

1. Open the "Watview" in the computer.



(Step 2 & 3 for users used the profile control for intermittent hypoxia experiment only. For other users please skip to Step 4)

When the profile is ended, the status will show "Ready". Unload the profile by selecting "Unassign".

ne operation bett	l l		2.1	Right click
	Profile	Status	Segment	
Incubator 1 02	120hrs 1point5 o2 4h 21o2 4h	Ready	Ready	
Incubator 1 CO2	<none></none>	<n a=""></n>	1	
Incubator 2 02	<none></none>	<n a=""></n>	Run	
Incubator 2 CO2	<none></none>	<n a=""></n>	Hold	
N/A	<none></none>	<n a=""></n>	Continue	
			Terminate	2.2 Click
			Unassign	

3. Close the "CLS200/MLS300 Profile Control" window.

(For all users)

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4. Turn off the pump of the incubator you have used.

	Incubator 1 Pump
	Incubator 2 Pump Off
	Pump must be on when controlling
	- CLS204-BS(#11) Output 21
	State
	Diff A 2 Select "Off"
	Un Make a selection
	4.3 Click Send
	Send Cancel Help
	Select the "Incubator/Parameter" you have used
•	select the incubator/i arameter you have used.
	Select Incubator/Parameter
	Incubator 1 O2
	Incubator 1 CO2
	Incubator 2 O2
	Incubator 2 CO2
•	Select Control mode to "Manual".
	6.1 Double click
	P
	Control Down
	0.000 %
	Incubator 1 02
	control mode = man
	Manual 6.2 Select "Manual"
	Manual Auto
	Tune

6.3 Click "Send"

пер

Send

Cancer

7. Set Control Up and Control Down to"0.0%". (Important!)

Control UP	Control Down			
0.000 %	0.000 %	- Incubator 1 02-	1	A
Set at O if Con	trol Mode = Man	Heat Output	7.2 Enter "0.0"	
		0.000		
7.1 Dou	ble click	Range: 0.000 % to 100.000 %		
		7.3 Clic	k "Send"	

- 8. Repeat Step 4 to 7 for all the "Incubator/Parameter" you have used.
- 9. Remove your culture plate/dish from the chamber. Clean the chamber with 70% ethanol.
- 10. If the chamber is not using by other user, turn off all the gas cylinders.

To turn off the gases, turn the **main switch** of the gas cylinder in **clockwise** direction.

Do not change the regulator switch setting.

Please kindly inform the FCF staff if the regulators display gas level less than 300psi.



11. Please sign the **log sheet** before you leave.

End for turn off the system

End