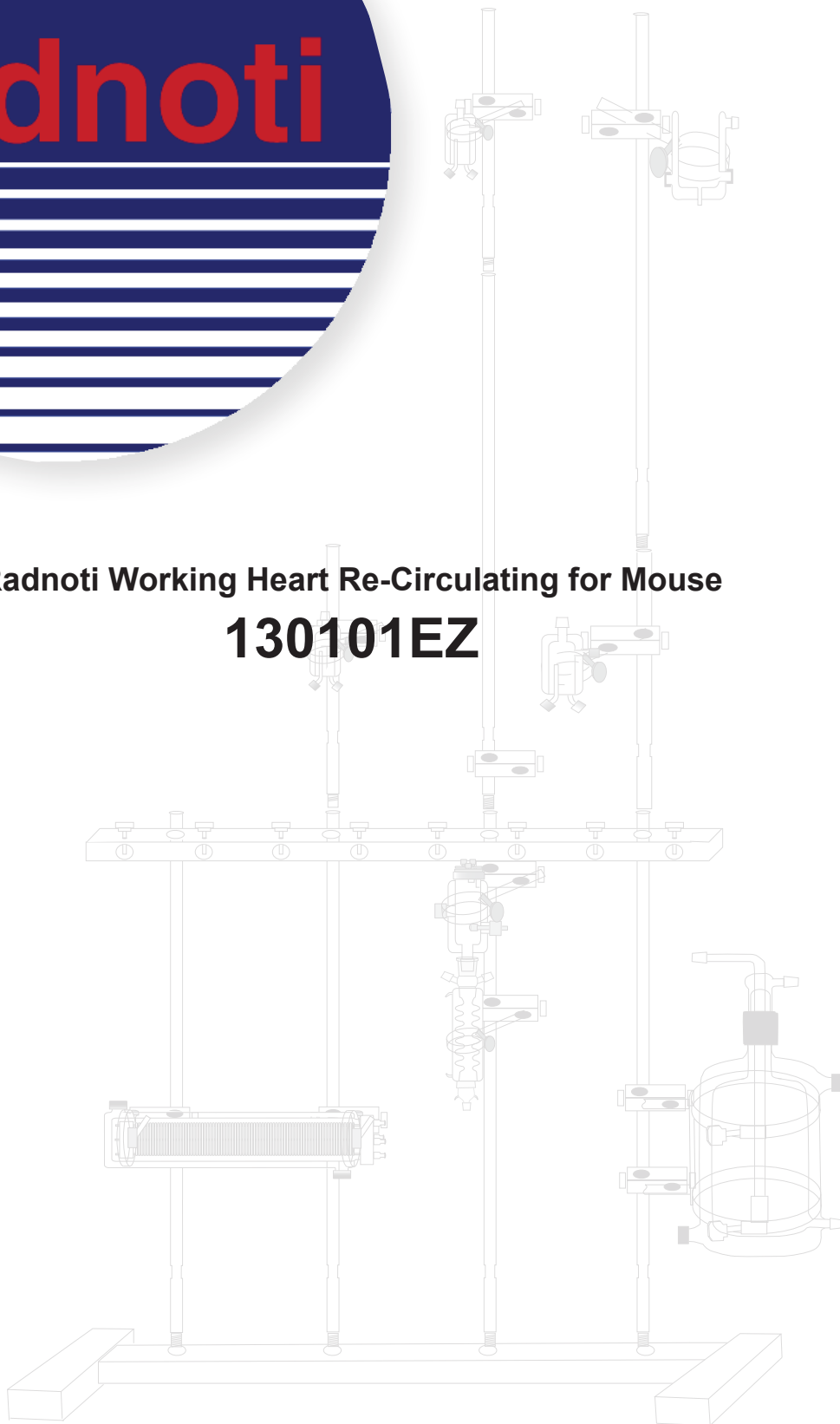
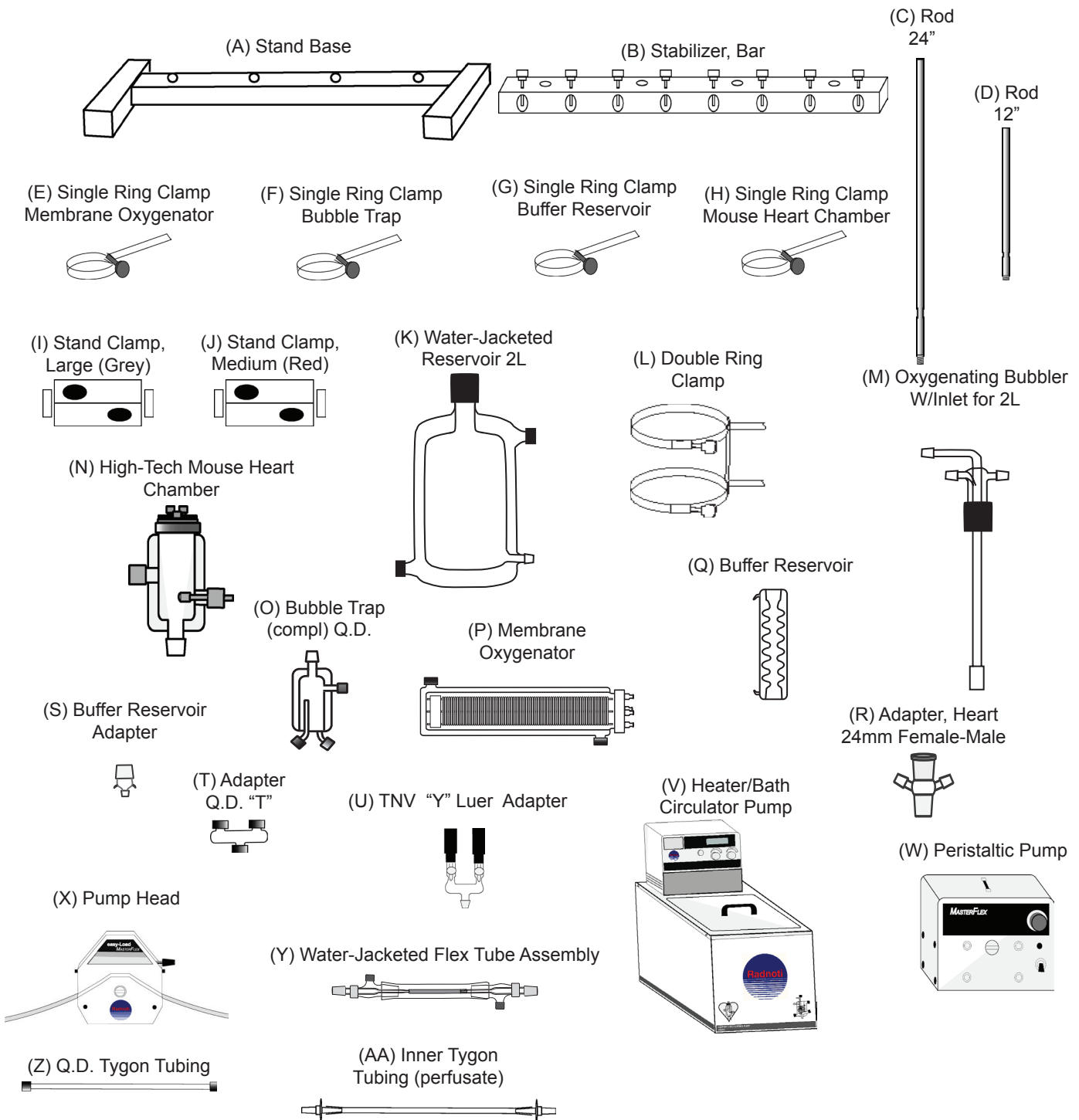




Radnoti Working Heart Re-Circulating for Mouse
130101EZ



Description	Qty	Part #
Base only, for 4-bar stand	1	159950-B4
Stabilizer Bar only, for 4-Bar stand	1	159950-C4
Rod 24" Long Stainless Steel	6	159950-24
Rod 12" Long Stainless Steel	3	159950-12
Single Ring Clamp (Membrane oxygenator)	2	130144-RC
Single Ring Clamp (Bubble trap)	3	120149-RC
Single Ring Clamp (Buffer reservoir)	1	159953-10
Single Ring Clamp (Hi-Tech mouse heart chamber)	1	159953-50
Universal Stand Clamp	11	159952
Water-Jacketed Reservoir 2 Liter	1	120142-2
Double Ring Clamp (2 liter reservoir)	1	120141-2
Oxygenating Bubbler w/inlet F/2L	1	140143-2
High-Tech Mouse Heart Chamber	1	130160
Bubble Trap (Compliance) Q.D.	3	130149
Membrane Oxygenator	1	130144
Buffer Reservoir	1	130146
Adapter Heart 24mm Female-Male	1	120147
Buffer Reservoir Adapter w/PTFE Filter	1	140131
Adapter "Y" Q.D.	2	120162
T.N.V. Luer "Y" Adapter	1	120168
Heater/Bath Circulator Pump	1	170051G
Peristaltic Pump	1	170100
Easy Load Pump Head	1	170111
Water-Jacketed Flex Tubing Assembly		
24"	2	130155-24
36"	2	130155-36
Q.D. Tygon Tubing (Water-Jacketed)		
10"	7	120159-10
20"	3	120159-20
24"	2	120159-24
30"	2	120159-30
60"	2	120159-60
90"	1	120159-90
Inner Tygon Tubing (Perfusate)		
24"	2	120157-24
36"	2	120157-36
48"	1	120157-48
75"	1	120157-75
Silicone Tubing (Overflow, drain)		
24"	1	130144-188-24
50"	2	130144-188-50
60"	1	130144-188-60
Gas Connections		
12"	2	120157-12
60"	1	120157-60
Tubing Adapter Kit		120140-B
Filling Funnel	1	120140-A
100ml Reservoir	1	1581-100
Single Ring Clamp for 100ml Reservoir	1	159953-100



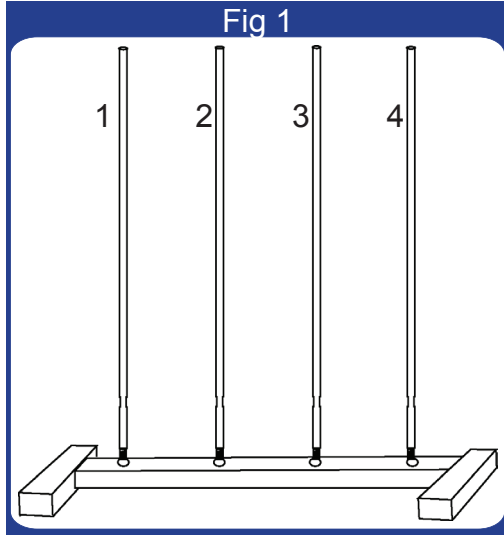


Fig 1: Place Stand Base (A) on a sturdy working surface. Attach four 24" rods (C) into the threaded holes on the base.

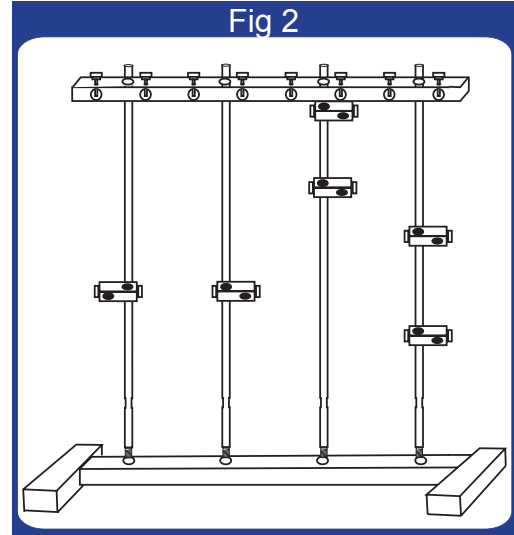


Fig 2: Slide Stand Clamp on Rods 1 & 2, then slide 2 on Rod 3. Now Slide 2 Stand Clamp, on Rod 4. Then slide the Stabilizer Bar (B) over all 4 Rods.

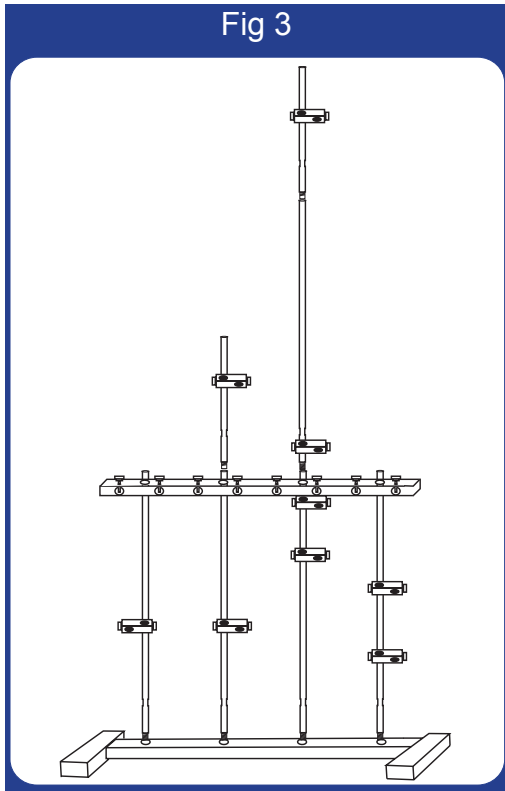


Fig 3: Screw in a 12" Rod (D) into the top of Rod 2 then screw a 24" Rod (C) on top of Rod 3 and a 12" Rod (D) on top of that. Now slide a Stand Clamp on to Rod 2 and 2 Stand Clamp onto Rod 3, one at the bottom and one near the top.

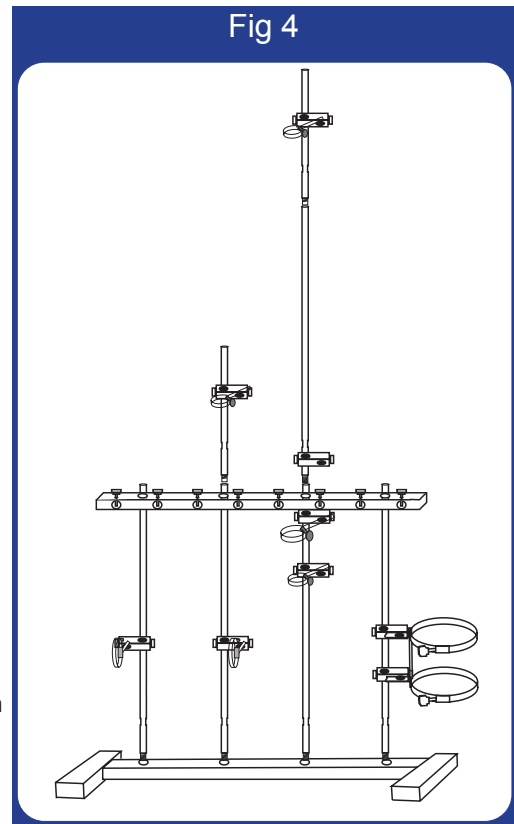


Fig 4: Place a Single Ring Clamp (membrane oxygenator)(E) in each of the stand clamps on Rods 1&2. Then place a Single Ring Clamp (Bubble Trap)(F) in the Stand

Clamp on top of Rod 2 and on top of Rod 3. Now Place a Single Ring Clamp (High-Tech Mouse Heart Chamber)(H) in the Stand Clamp on Rod 3 right below the Stabilizer Bar. Then a Single Ring Clamp (Buffer Res.)(G) in the Stand Clamp below the one for the heart chamber. Now place the Double Ring Clamp (L) into the Stand Clamp, large (grey) on Rod 4.

Fig 5

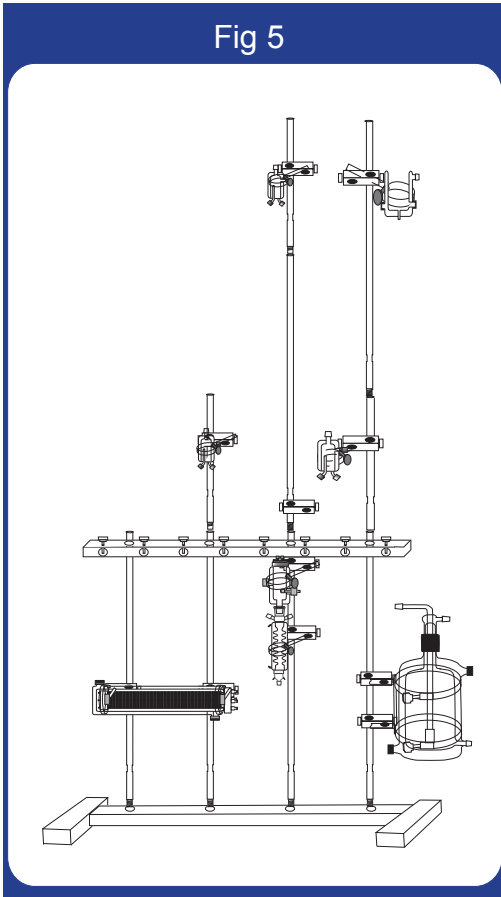
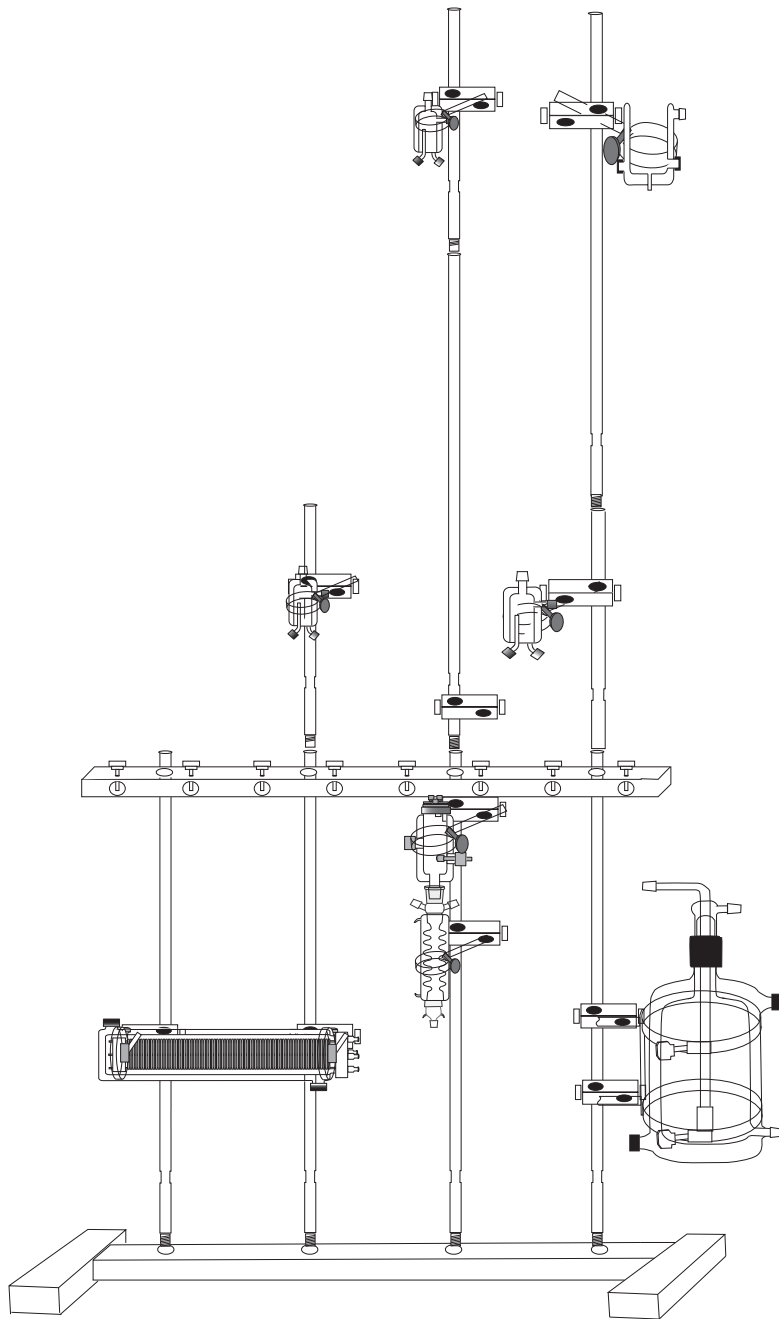
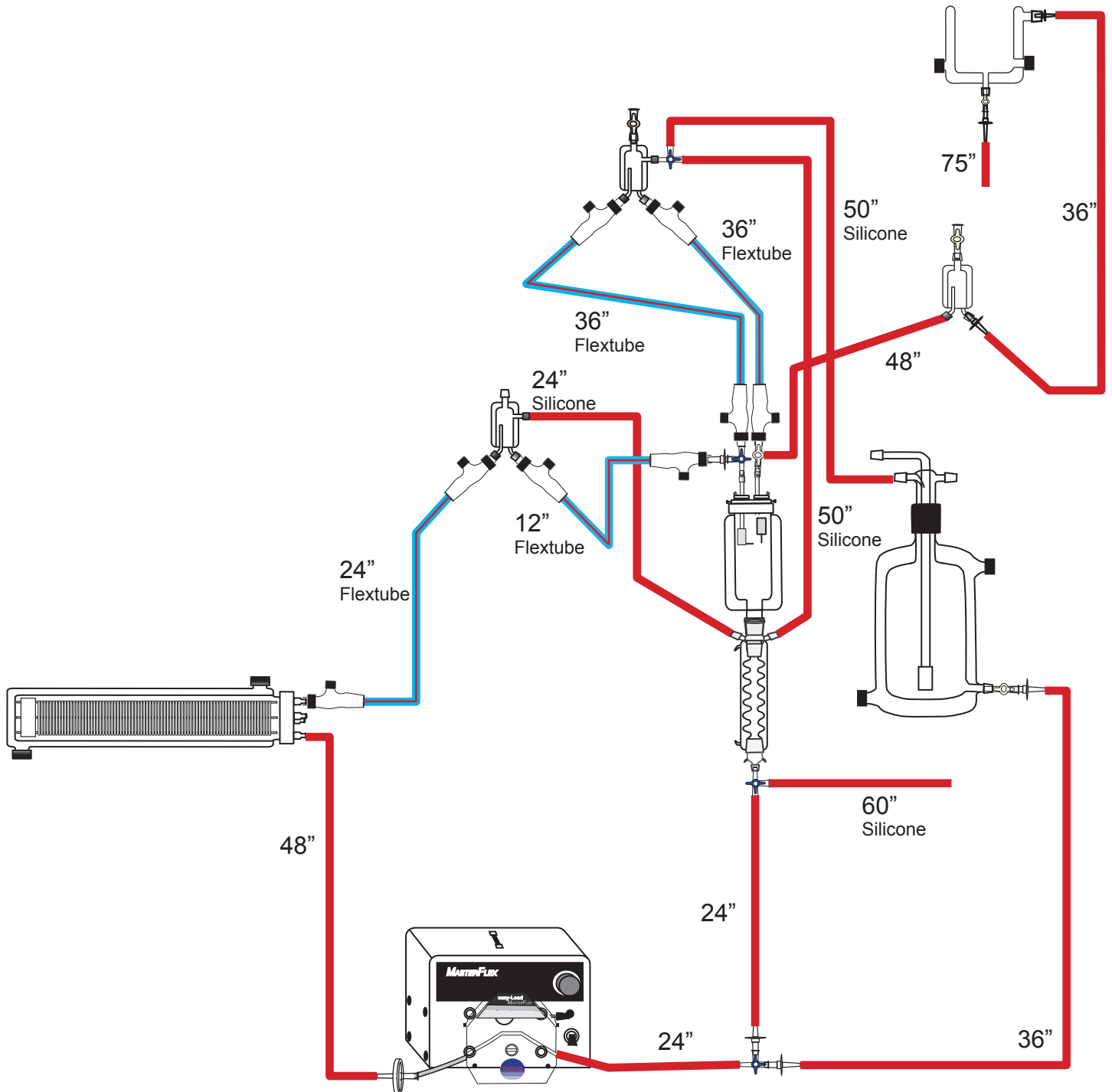


Fig 5: Place the Membrane Oxgenator (P) in the 2 lower Ring Clamps on Rods 1 & 2. Place a Bubble Trap (O) in the ring clamps on top of Rods 2 & 3. Put the Buffer Reservoir (Q) in the lowest ring clamp on Rod 3 then put the Buffer Reservoir Adapter (S) in the bottom of the Buffer Reservoir. Now Slide the Adapter, Heart, 24MM Female-Male (R) in the top of the Buffer Reservoir. Then put the High-Tech Mouse Heart Chamber (N) in the Ring Clamp above the Buffer Reservoir. The bottom of the Heart Chamber should fit in the top of the Adapter, Heart, 24MM Female-Male. The handle on the lid of the Heart Chamber should slide into the Stand Clamp above the Stabilizer Bar on Rod 3. Now Put the Water-Jacketed Reservoir 2L (K) in the Double Ring Clamp on Rod 4.

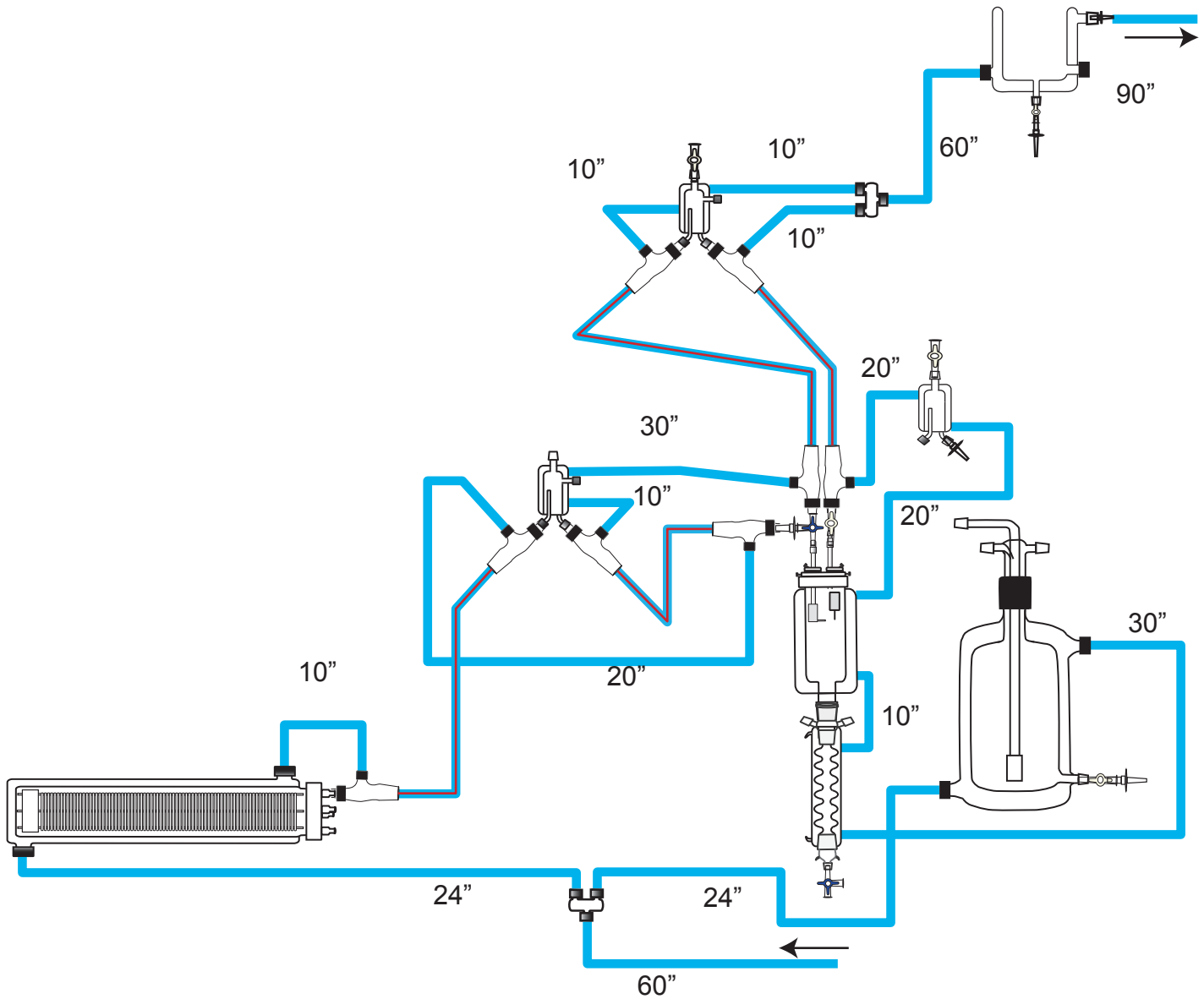
Warning: *When placing the glass components in ring clamps, please be careful not to over tighten clamps.*



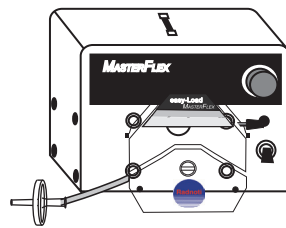
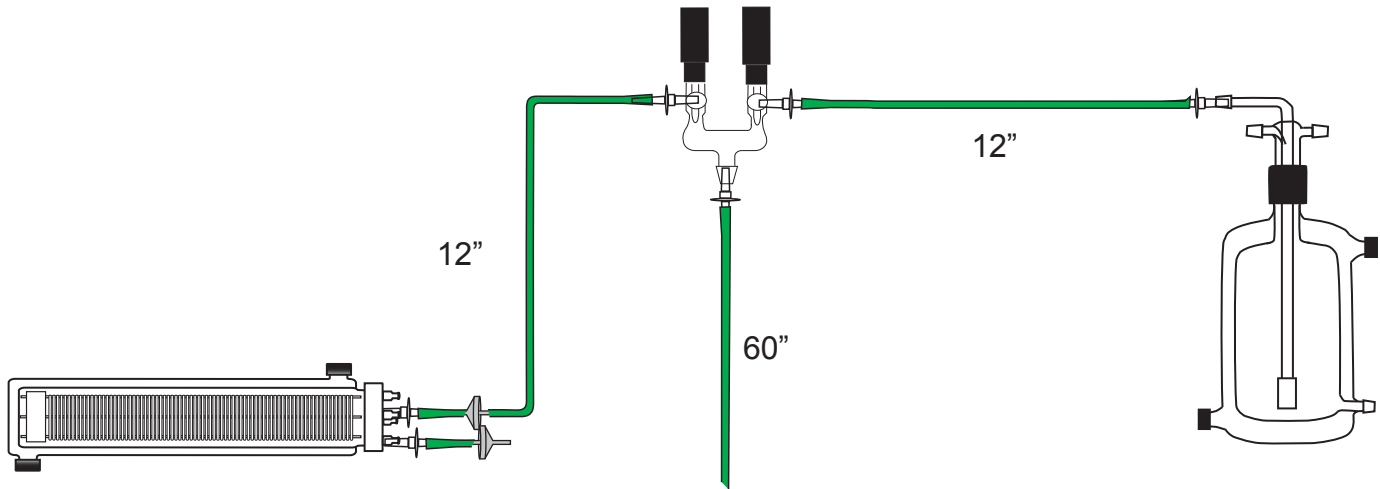
Perfusate Connection



Water-Jacket Tubing Connection Chart



Oxygen Connection



RADNOTI 'QUICK DISCONNECT" INSTRUCTIONS

For Reference only

A	Slide Cap-With hole onto the water line. (Tygon tubing #120159)
B	Push the plastic sleeve insert into the end of the Tygon tubing with the flared end first. (Catalog #120160)
C	Be sure to use 5/16 x 3/16 inch Tygon tubing. (Catalog #120159)
D	<u>MOISTEN TIP OF TYGON TUBING</u> before insertion into the threaded glass.
	CAUTION: To avoid breakage, do not over tighten the screw cap.



(A) (B)
(D)

Plastic Insert

Replacement Part List:

Catalog No.	Description
120160	Plastic sleeve insert, 25/Pkg
120159	Tygon tubing 5/16 x 3/16 ID, 50 ft/min
160196	Drilled cap for W/J.Q.D.

General Preparation Instructions

Prior to starting, the experimental protocol should be designed and solutions and agents prepared.

Turn on the water recirculating pump, set temperature (normally 37° C) and allow the system to come to temperature, which normally takes 15-30 minutes.

After turning on the water pump, switch on the computer and boot the data acquisition and analysis package, if present.

The perfusate reservoir(s) stopcocks should be closed, then the perfusate added to the reservoir(s) to a level a few centimeters below the shoulder of the internal reservoir bottle(s). This headspace allows aeration without spillage of perfusate.

After making sure that gas can leave the reservoir through an open port, the perfusate in the reservoir can be aerated with the selected gas mixture, using a multiple stage gas regulator. The bubbles from the aerator should form a continuous stream, but not violently agitate the perfusate. Nominal gas flows will be in the range of 0.25-2 liters/minute, depending on reservoir size.

Unscrew the lid of the heart chamber, release the clamp holding the lid onto the support bar, slide the lid upward and leave enough room to mount the heart and then retighten the lid's clamp onto the support bar.

Testing and calibration of sensors (pressure, force, flow, ion selective electrodes, ECG, etc) should be performed at this time. The left ventricular balloon should be tested for leakage and catheters, stopcocks and fittings primed with fluid.

Instruments and surgical supplies should be laid out and ties prepared to mount the heart, secure the balloon catheter, etc. A beaker of chilled perfusate with heparin can be placed on ice to transport the donor heart.