

MODULAR BRASS MANIFOLD ASSEMBLY INSTRUCTIONS



REV: 01/01/05



300 Smith Street
Farmingdale, NY 11735
Ph: 631-694-1800 – Fax: 631-694-1832

MANIFOLD ASSEMBLY DIRECTIONS

PLEASE READ THESE INSTRUCTIONS COMPLETELY BEFORE ASSEMBLY

Required Parts(Per Manifold):

- 1- PN 11200001, Bracket and End Block Kit, includes mounting brackets and hardware, end blocks with air vents, thermometers and purge valves, and a tube of silicone grease.
- PN 11240000, Threaded Rod & Nuts(see chart below for quantity)
- 1- (per loop) PN 11230000, Return Block (Indicator)
- 1- (per loop) PN 11210000,Supply Block (Actuator) OR 1- (per loop) PN11220000 Supply Block (Manual)

MANIFOLDS SHOULD BE ASSEMBLED IN A CLEAN WORK AREA.
DIRT OR DEBRIS ON MANIFOLD O-RINGS MAY CAUSE LEAKS

MANIFOLDS SHOULD NOT BE USED WITH WATER TEMPERATURES HIGHER THAN 150F. USING THE MANIFOLD WITH HIGH TEMPERATURES WILL VOID THE WARRANTY

1. Cut threaded rods for the number of loops according to the lengths in Table 2.

Number of Loops	Cut Rod Length	Number of Cut Rods Required	Number of Full Length Rods Required
1	5-1/2"	8	2
2	7-3/4"	8	2
3	10"	8	3
4	12-1/4"	8	3
5	14-1/2"	8	4
6	16-3/4"	8	4
7	19"	8	4
8	21-1/4"	8	8
9	23-1/2"	8	8
10	25-3/4"	8	8

2. Brackets are assembled with hollowed sides facing inward, solid sides outward. The bracket is offset at the lower header to allow tubing to pass behind and connect to the top header.
3. Before assembling manifold blocks, apply silicone-based grease to all manifold block O-rings. Force the grease into the O-ring with your finger tip. It is not necessary to remove the O-ring. Use only silicone-based grease.
4. Assemble according to manifold assembly drawing with nubs at top of each supply and return block facing forward. This assures that each connection will be fitted with an O-ring. Red (supply) blocks should be above the blue (return) blocks to allow tubing to pass behind the return blocks. Be sure manifold blocks are free of dirt and debris before applying silicone-based grease. Do not allow the greased block O-ring to become contaminated with dirt or debris before assembly.
5. Thread rods into inlet block until the rod bottoms out. Tighten the nuts at the ends of the rods on the closed block ends. Apply equal torque to the nuts while tightening, alternating between nuts. Tighten nuts to 120 to 144 inch-pounds of torque (apply no more than 168 in./lbs of torque to the nuts to avoid damaging the manifold blocks).
6. Temporarily mount header assemblies in brackets and mark the bracket hole locations for installation. Manifold assemblies should be mounted a minimum of 18 inches above the floor to allow for tubing connections. Remove headers from brackets and fasten brackets to wall. Lag screws and anchors are provided for masonry installations. Mount headers in brackets.
7. Embassy's plastic modular manifolds may also be installed in the reverse, with supply and return piping coming in from the right. In this case, the nubs at the top of each block will face backward and the thermometers are removed from the wells in the vent blocks and placed for visibility on the opposite side of that block. Manifolds may also be installed upside down with the PEX connections facing upwards. The flow indicators will still function in the position. ***The supply and return vent blocks must not be turned upside down otherwise a leak will occur.***
8. If a leak occurs between the manifold blocks, check to be sure that the threaded rod nuts are tightened as specified in Step 5. **DO NOT OVER TIGHTEN THE NUTS!** If the leak persists, disassemble header and check O-ring for contamination by dirt or debris. Wipe O-ring clean and re-apply silicone grease. Re assemble header as described above.
9. Manifolds may be air pressure tested to 100 PSI maximum. Be sure to cap the air vent. If an air leak still occurs from the vent cap, remove cap and apply a layer of teflon tape to the vent threads and re-install cap.

Balancing the System:

Make sure that the circulator supplying the manifold is operating. A manifold may feed several circuits (loops), which in turn may vary significantly in length. To be sure that each circuit receives an adequate amount of flow, flow indicators are located within the return blocks of the manifold (blue block). Each has a sight glass with numerical graduations one through five, and a piston-type red indicator. All knobs on the supply (red) and return (blue) manifold blocks should be in the full open position (counter-clockwise). With the system filled, the red indicators will most likely be at different levels. Usually, the shortest circuit will receive the most flow yielding the highest indicator level.

Begin by throttling down (clockwise) the circuit (from the blue return block only) showing the highest indicator level. The other circuits will begin adjusting upward; once they are all at the same level the system is balanced. See below for the flow rates that correspond to the numerical markings on the indicator.

- Setting 1 ----- 0.25 gpm**
- Setting 2 ----- 0.50 gpm**
- Setting 3 ----- 1.00 gpm**
- Setting 4 ----- 2.00 gpm**
- Setting 5 ----- 3.50 gpm**

