CLAIMS

1. A manifold assembly for use with a filter capsule having a first fitting and a second fitting, the manifold assembly comprising:

(a) an upper adjustable frame arrangement comprising a block comprising a top wall, a bottom wall, a first side wall, a second side wall, a rear wall, a through hole for receiving the first fitting, the through hole passing through the bottom wall and the second side wall and providing a fluid flow path; a cavity within a body; a check valve located in the cavity and across the fluid flow path, the check valve opening to allow fluid flow along the fluid flow path when contacted by the first fitting, and biased closed to prevent fluid flow along the fluid flow path when not contacted by the first fitting; a slidable handle arranged on the first side wall; a slot in the first side wall; a slidable locking pin arranged in the block, the slidable locking pin having an end, wherein the slidable locking pin can be withdrawn into the block and extended from the block through a locking pin opening upon slidably moving the handle horizontally, wherein the slidable handle is connected to the slidable locking pin by at least one retainer passing through the slot in the first side wall, wherein the slidable handle can move the slidable locking pin to slide the locking pin end into a first opening to lock the upper adjustable frame arrangement in a first position, and to slide the locking pin end into a second opening to lock the upper adjustable frame arrangement in a second position, wherein the upper adjustable frame arrangement is movable between the first and the second positions when the locking pin end is not in the first opening or the second opening;

(b) a lower frame arrangement comprising a through hole for receiving the second fitting; and,

(c) a manifold frame connected to the upper adjustable frame arrangement and connected the lower frame arrangement, the manifold frame including the first opening and the second opening.

2. The manifold assembly of claim 1, wherein the check valve includes a projection that, when the check valve is biased closed, contacts a valve seat in lower end of the cavity in the upper adjustable frame arrangement.

3. The manifold assembly of claim 1 or 2, wherein the rear wall of the upper adjustable frame arrangement comprises a locking pin opening and a cavity for receiving a linear guide comprising a grooved plate, wherein the linear guide is mounted to the block and is arranged to guide the adjustable frame arrangement vertically between the first position and the second position; wherein the upper adjustable frame arrangement is movable along the linear guide between the first and the second positions when the locking pin end is not in the first opening or the second opening.

4. A method for engaging a filter capsule in a manifold assembly, the method comprising placing a filter capsule having a first fitting and a second fitting into a manifold assembly comprising:

(a) an upper adjustable frame arrangement comprising a block comprising a top wall, a bottom wall, a first side wall, a second side wall, a rear wall, a through hole for receiving the first fitting, the through hole passing through the bottom wall and the second side wall and providing a fluid flow path; a cavity within a body; a check valve located in the cavity and across the fluid flow path, the check valve opening to allow fluid flow along the fluid flow path when contacted by the first fitting, and biased closed to prevent fluid flow along the fluid flow path when not contacted by the first fitting; a slidable handle arranged on the first side wall; a slot in the first side wall; a slidable locking pin arranged in the block, the slidable locking pin having an end, wherein the slidable locking pin can be withdrawn into the block and extended from the block through a locking pin opening upon slidably moving the handle horizontally, wherein the slidable handle is connected to the slidable locking pin by at least one retainer passing through the slot in the first side wall, wherein the slidable handle can move the slidable locking pin to slide the locking pin end into a first opening to lock the upper adjustable frame arrangement in a first position, and to slide the locking pin end into a second opening to lock

the upper adjustable frame arrangement in a second position, wherein the upper adjustable frame arrangement is movable between the first and the second positions when the locking pin end is not in the first opening or the second opening;

(b) a lower frame arrangement comprising a through hole for receiving the second fitting; and,

(c) a manifold frame connected to the upper adjustable frame arrangement and connected the lower frame arrangement, the manifold frame including the first opening and the second opening;

the method including placing the second fitting into the through hole of the lower frame arrangement; moving the upper adjustable frame arrangement from the first position to the second position and placing the first fitting in the through hole of the upper adjustable frame arrangement such that the first fitting contacts the check valve and opens the check valve; and moving the movable handle to lock the upper adjustable frame arrangement in the second position.

5. The method of claim 4, further comprising passing fluid through the filter capsule.