CLAIMS

What is claimed is:

1. An automatic fluid delivery system for delivering a fluid from an automatic water system to a cage in an animal caging system for housing one or more animals, comprising:

a flexible, non-metal, hose-type manifold line having a plurality of circular apertures; and

a plurality of saddle fittings each configured to fit into an aperture,

wherein each cage location comprises two apertures opposite one other and two saddle fittings fit thereto,

each saddle fitting formed of injection molded plastic, and

each saddle fitting further comprising:

a U-shaped portion configured to fit around the flexible manifold line;

an inward-facing protrusion sized and configured to penetrate and seal to an aperture;

a sealing rib around the protrusion configured to form a radial seal around the circumference of the aperture; and

one or more grip ribs on the U-shaped portion configured to grip the flexible manifold line on either side of the aperture and prevent the saddle fitting from moving laterally, stretching the flexible manifold line and deforming the aperture.

2. The automatic fluid delivery system of claim 1, wherein the flexible manifold line comprises a silicone pipe.

3. The automatic fluid delivery system of claim 1 or 2, wherein the two saddle fittings are held in place on the flexible manifold line by one or more locking rings.

4. The automatic fluid delivery system of claim 3, wherein the locking rings comprise stainless steel.

5. The automatic fluid delivery system of any preceding claim, wherein at least one of the two saddle fittings comprises a front saddle fitting having a fluid channel therethrough and an outward- facing attachment portion configured to attach to a quick disconnect element.

6. The automatic fluid delivery system of claim 5, wherein the attachment portion of the front saddle fitting comprises screw threads.

7. The automatic fluid delivery system of claim 5 or 6, further comprising at least one quick disconnect (QD) element, comprising:

a QD body and a QD cap joined together to define a QD fluid channel through the QD element; and

a QD spring element, a QD plunger, and a QD sealing element disposed within the QD body and the QD cap and in the QD fluid channel to open and close the QD element,

wherein the QD body is configured to be joined to the attachment portion of a front saddle fitting and the QD cap is configured to be joined to a valve stem, and

wherein the QD body and the QD cap are formed of injection molded plastic.

8. The automatic fluid delivery system of claim 7, wherein the QD body and the QD cap are joined via sonic welding.

9. The automatic fluid delivery system of claim 7 or 8, wherein the QD body comprises screw threads and is configured to screw onto the attachment portion of the front saddle fitting.

10. The automatic fluid delivery system of claim 7, 8 or 9, further comprising a sealing element configured to fit between the QD element and the front saddle fitting to protect against leakage.