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THE *BICARB* MIXER
with
FRESENIUS BOTTLE

Applied Water Engineering, Inc.

THE *BICARB* MIXER

The Need: Many dialysis clinics use bottles of freshly prepared bicarbonate solution for each treatment. The bottles are typically filled and mixed in one location and then put on a cart and distributed to the individual stations.

Fresh bicarbonate solution is preferred because bacteria growth is rapid and their byproduct pyrogens must be controlled. Also the sodium bicarbonate solution looses carbon dioxide over time and changes its pH and conductivity.

Many facilities make large batches of bicarbonate solution with tanks, pumps, and/or mixer blades. The bottles are then filled from the tank by hand. The extra equipment, however, has many wetted surfaces that must then be regularly disinfected and rinsed.

Preparing a single bottle manually by filling and shaking the bottle yields very inconsistent results. Typically not all the powder is dissolved and the concentration will vary. In addition staff will complain about aches and pains.

The Solution:
The *Bicarb* Mixer accepts standard 10 liter HDPE bottles (jugs) for preparing a standard 8 liter dosage of mixture.

Operation is easy. Slide an empty bottle into the mixer. Secure the wide mouth funnel to the bottle fill neck. Press the “FILL” pushbutton and the exact quantity of purified water is added to the jug as you pour in the bicarbonate powder. If the purified water is available at high rates, the bottle will fill to 8 liters in about 35 seconds. When full, screw on the bottle cap and press the “MIX” pushbutton.

The bottle is gently turned over several times by a timed low speed motor. In less than a minute there is a perfectly mixed batch of bicarbonate for dialysis. The mix is consistently the same no matter who is making the mixture. The gentle mixing prevents the deleterious loss of carbon dioxide and pH change that occur with more violent mixing methods.

The bicarbonate jugs have to be rinsed, disinfected and dried anyway. Unlike other batch mixers, there is nothing else exposed to the bicarbonate solution that needs such critical attention. The water flow path has minimum volume and is easily disinfected and rinsed with the purified water distribution loop.

The mixer is designed for wall mounting. A minimum width of 30” is required.

The mixer utilizes a high torque AC stepper motor with electronic timing. The water fill circuit includes a pressure regulator, flow regulator and plastic solenoid valve. The Bicarb Mixer comes with a 115 volt hospital grade line cord.