



## Water Traps

The water trap provided with the FX-5000™ Tension System is used to remove moisture from air that cycles through the FLEX IN and FLEX OUT vacuum lines. On any given cycle, the FX5K™ Tension FlexLink® may draw water-saturated air from the incubator through the junctions between the culture plate and the BioFlex® baseplate gaskets. The high humidity in the incubator air can result in moisture accumulation in the FLEX IN and FLEX OUT tubing. The water traps collect water and effectively dry the air before it passes into the FlexLink®, and subsequently into the valves and transducers inside the equipment. They also serve to collect any condensed water that may have otherwise entered into the unit. Water traps consist of an inline filter with a collection bulb enclosed in a black protective metal body (Fig. 1). The filter removes moisture from the air and allows dry air to pass through to the FlexLink®. Removed moisture condenses and collects in the bulb below.

**ASSEMBLY NOTES.** The water traps come fully assembled with an inline connector fitting on each side. After the system is fully assembled, the water traps will need to be connected inline with the FLEX IN and FLEX OUT tubing (Fig. 2) about halfway between the BioFlex® baseplate and FlexLink®. The water traps should be mounted to a solid surface using screws or cable ties, in a vertical position to assure that water will drain to the bottom of the bulb. The water traps should also be mounted in a position lower than that of the FlexLink®. This will force all condensed water to drain down into the bulb. When mounting, leave enough room underneath the bulb of each water trap to allow water collection through the valve at the bottom. The airflow direction required for the water traps should also be taken into consideration when mounting. Each water trap will have two stickers on top indicating which side should connect to the tubing that leads to the baseplate (BPLT), and which side should connect to the tubing that leads to the FlexLink® (CTRL). Use the stickers as indicators when connecting the trap inline. Before connecting the water traps inline with the FLEX IN and FLEX OUT tubing, set up the entire FX-5000™ Tension system. Locate a convenient position to mount the traps according to the prescribed conditions above. Cut the FLEX IN and FLEX OUT tubing at this point and connect the tubing to the two side ports of each water trap. The water traps are now ready for use with the FX-5000™ Tension System.

**MAINTENANCE NOTES.** During normal use of the water traps, some water may collect in the bulb of the water traps. The amount of water that collects in the water traps will vary depending on how well the BioFlex® baseplate and gaskets are sealed in the incubator. An almost perfect seal will produce minimal water in the water traps. To improve the seal, vacuum or silicone grease can be used on the gaskets, and a lead weight and the clear acrylic window provided with the system can be used on top of the plates. Over time, the gaskets will become more flexible, and the seal will improve. The water traps should be monitored hourly during initial use of the system to determine how much water accumulates over a given time period. This will allow the user to predict how often the traps should be emptied in future experiments. Once the water traps are nearly filled with water, the FX-5000™ Tension System should be paused or stopped in order to empty the water traps. Normal use with a good baseplate seal will not require the stopping of experiments in order to empty the water traps. To empty the water traps, place a cup or other collection container underneath and turn the valve at the bottom of the water traps bulb. This will allow the water to drain out. Once the water is drained, close the valve on the bottom of the water traps.

**ORDERING INFORMATION.** Flex In water traps (Cat. No. WATER TRAP 1/4") and Flex Out water traps (Cat. No. WATER TRAP 3/8") are sold individually. Mounting brackets are included with each trap. The water traps provided with the FX-5000™ Tension System should function properly throughout the lifetime of the system. Should any moisture be noticed passing through the water traps and condensing in the tubing on the FlexLink® side of the water traps, a replacement filter may be needed.



Figure 1. Water trap.

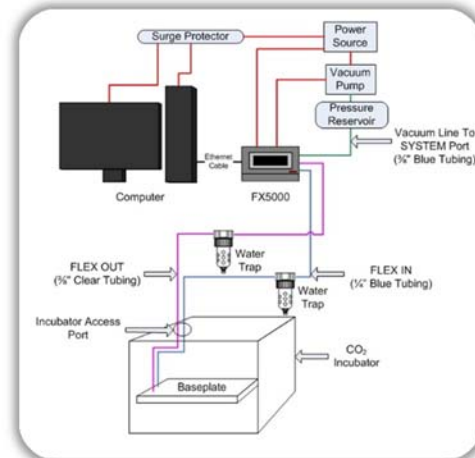


Figure 2. Schematic of water trap placement with respect to the FX-5000™ Tension System.

### SPECIFICATIONS

Fitting Size	1/4" NPT (fittings supplied)
Max Airflow Rate	53 CFM (1500 l/min)
Max Pressure	150 psi (1 MPa)
Max Temperature	125 °F (51 °C)
Collection Bulb Volume	2.2 oz (65 ml)
Bulb Material	Polycarbonate with guard
Height	6.58 in (16.7 cm)
Width	1.97 in (5 cm)
Weight	1.25 lb (0.57 kg)