

## AFO

The 2001 Fall/Winter schedule for the Aquatic Facility Operator (AFO) certification program is as follows:

Miami	September 20-21
Orlando	October 11-12
Boca Raton	October 25-26
Bradenton	November 8-9
To be determined	December 6-7

Interested in sponsoring or adding a course in your area? Call Vickie at extension 110 for complete information.

## Tech Tips - Know Your Circulation System

The swimming pool or spa circulation system is the heart of the entire pool. Proper operation is important in maintaining all aspects of your pool water including code compliance, clarity, water distribution, water temperature, and chemistry.

First we must make sure that your pool pump is working properly, and for this you will need proper instrumentation. DOH codes require a vacuum and a pressure gauge on each pool system. These gauges are best located on either side of the circulation pump approximately one inch per each inch of pipe diameter away from the pump itself. For example, a vacuum gauge on an 8" pipe should be located 8" before the pump. CES recommends liquid-filled, stainless steel gauges for long-term accurate readings that you can trust. While you will pay more for these gauges, they will last many times longer than traditional gauges, thus providing a great value.

Once the gauges are in place, you will need to monitor and log your pressure and vacuum readings on a daily basis. This will establish a good baseline of operation in order to evaluate changes in the system. For example, if your vacuum gauge is normally reading 6" HIG (negative pressure or vacuum), and it goes up to 10" HIG, then your strainer basket probably needs to be cleaned. You may also experience the same vacuum increase if your DE filters are getting soiled.

You can also easily check to see of your

circulation pump is working too hard or working too little (more damaging than the former) by using the pressure and vacuum gauges and the CES Total Dynamic Head calculator. This guide will detail at what TDH your system is currently operating at (normally between 40 and 60 TDH), and will allow you to make fine adjustments to the piping system and thus trim your pump for maximum performance. A pool with a higher TDH (above 60) may have too many restrictions, and more than likely is not delivering the proper amount of GPM's required by DOH codes, unless it was designed to operate at that level. A pool with lower TDH (normally below 40) is working too little and is probably operating at a very high amperage (similar to a Chevy Chevette going 120 mph downhill). This could burn out the pump if left unchecked, again unless it was designed to do so. Pools with low TDH's normally need to have the pump effluent valve trimmed (closed) in order to slow down the flow and drop the amperage within your design parameters. Verify your original design point, use the system gauges, and CES can help you pinpoint the problems and find a suitable solution.

Also required by DOH is a system flow meter which displays a direct reading of the pool flow. Many system flowmeters are improperly installed or are missing altogether. Flowmeters should be installed in a straight run of pipe, downstream from filter, heater, etc., with proper clearance (10x the pipe size) before the flowmeter and (5x diameter) after the flowmeter. We have seen some flowmeters installed in elbows, or in short piping runs, and these units simply will not work. Remember that direct proof of proper flow, as offered by logging your daily flowmeter readings, is one of the main ways to prove DOH compliance in case of any water quality-related liability issues.

## Instrumentation 10% Off Special

Check out your circulation system instrumentation today, and call us with any questions regarding DOH code compliance or operation. If your existing gauges are corroded or missing, re-order replacement gauges from CES. Or-

der before September 20th and take an additional 10% discount off our regular discount prices. Mention code AM0903 to qualify for your extra discount. Ask for your free CES Total Dynamic Head calculator. Ask for:

HF 25W3000HL 02L P60 - Stainless Steel 2.5" pressure gauge (0-60PSI), 1/4" bottom connect

HF 25W3000HL 02L V30 - Stainless Steel 2.5" vacuum gauge (0-30HIG), 1/4" bottom connect

HC F-30X00P- BlueWhite flowmeters (X indicates pipe size) 1.5" - 6" includes stainless clamps & instructions

HD 3-8512 - Signet digital flowmeters 1.5" - 14" - please call for quotation.

## Toll Free Orders Fax

CES is proud to offer a toll free fax number for your ordering convenience. This fax is routed to the Customer Service - Orders department and will help us expedite your orders. The new number is (866) CES-2500.

## Q & A

**Q.** I run a large municipal swimming pool and my water quality is great, but I have a serious problem with green algae. I brush almost daily and have shocked my pool repeatedly, but the algae seems to come back almost immediately. I don't want to spend a lot of money on algaecides and special chemicals without knowing that its going to work. What should I do?

**A.** Algae can be very stubborn indeed. There are several reasons why you might be experiencing this problem algae despite your diligence. You might have an oxidation or disinfection (chlorination) problem, or your pH may be too high (rendering your chlorine ineffective). You also may have poor filtration or high stabilizer levels. You may have high Phosphate levels that are giving the algae too much "food". The best way to be assured of the results, is to research and attack the "source" of the problem. If your Phosphates are too high, you will need to remove them with Phosfree™. If your filtration is poor, you will need to enhance through algaecides, flocculants, or (preferably) a filter change. You cannot, however, resolve a phosphate problem by shocking, or algaecides. Please send in a water sample and we will analyze the problem and offer a guaranteed solution.