



## McDonald's PM-2K TDS Warning System

- Do not use the unit while the water is turned off.

Your PM-2K TDS Warning system is designed to tell you when the water feeding your espresso coffee equipment is out of specification (over 125 TDS). It is recommended that you test the quality of your water supply to your coffee equipment regularly to ensure your RO system is functioning properly. The alarm is another tool to help you maintain proper water quality.

### **TDS (Total dissolved solids) are measured in PPM (Parts per million)**

The system is mounted in the water line and will display a red led light and start beeping when the TDS level goes over the pre-set limit. When the TDS returns below the limit, the alarm will turn off.

For Franke equipment, the device is set to go off at 100 ppm.  
For Melitta equipment, the device is set to go off at 124 ppm.

Your in-line TDS, warning system includes the following:  
PM-2K TDS warning meter and SM1 inline TDS meter



\* Optional TDS-3 hand held meter



If the **Red LED light** and beeper are on for more than 24 hours, call Coca-Cola 800-241-2653 for service on your RO system.

This indicates that a fault may exist in the function of your RO system and needs attention from a technician.

When you first hear the alarm or see the red LED, reference the trouble shooting guide below

Symptom	Potential Cause	Corrective Action
Alarm sounded for a couple hours after a long busy period of breakfast sales	RO storage tank has been over drawn causing temporary bypass.	Allow several hours for RO to refill tank and. Alarm should silence once tank is refilled. Test water quality at RO water sample ports to ensure water is under 125 ppm TDS.
Alarm sounds for several hours regularly after busy periods	RO storage tank is frequently over drawn causing temporary bypass. Store volume may be too high for current system.	Contact Coca-Cola for suggestions to increase RO water capacity.
Alarm has sounded for over 24 hours	Fault with RO system	Contact Coca-Cola for technical assistance.

For warranty on the PM-2K call Ken's Beverage Inc.  
800-285-2292

Using the optional TDS-3 Hand Held TDS meter

- Collect sample from the RO. The RO system has two water outputs. In order to test the water going to coffee brewing equipment, a water sample must be taken from the line that is labeled "coffee" at the top of the RO. This line will have a sampling valve that allows measurement of the coffee water quality without taking the system out of service. An alternate point to take the sample is at the quick disconnect of the assembly of fittings behind the coffee equipment. Use the following sampling procedure:
  1. Place a container with a volume of at least one gallon at the output of the sampling line.
  2. Open the valve to produce a max **water flow-rate of 0.5 gallons per minute**. Allow the water to run for one minute. After one minute, close the valve and discard all of the collected water.
  3. Place a new clean container at the output of the sampling line to collect a sample of at least one cup.
  4. Open the sampling valve and fill the sampling container with water. **Note: If the pressure gauge on top of the Cuno R/O system drops to 40psi or lower the system is in danger of being in by-pass and a new sample should be taken.**
  5. After a cup of water is collected, close the sampling valve and rinse the sensing tip of the TDS meter in this water sample.
  6. Discard the water sample.
  7. Repeat steps 4 through 6 using with the same sampling container used in step 4.
  8. Repeat steps 4 through 6, again using the same sampling container. Both the sample container and the TDS meter have now been rinsed well with the sample water.
  9. Proceed to TDS test below for measurement of the TDS in the collected water sample

- Test TDS - After a water sample has been collected and the TDS meter has been rinsed as described above, a TDS reading may be taken. The following steps serve as a guideline for this measurement:
  1. Measure and record water sample temperature.
  2. Gently stir the TDS meter in the collected sample and allow the meter reading to stabilize. The details of TDS measurement are described in your TDS meter manual.
  3. Record the stabilized TDS reading. **The target for this reading is between 50 and 100 ppm.**
  4. Rinse the TDS meter with distilled water or steamer sample water and blot dry before storing. This will help to ensure the accuracy and longevity of the TDS meter.

## Analysis

Acceptable operating limits for the TDS in the water for the equipment suppliers are listed below.

Franke Sinfonia:	50-100 ppm
Melitta c5:	50-125 ppm

If the water samples fall within these limits measured for each respective supplier, then no further action is required. If readings are outside these limits, take the following action:

- If measured TDS falls above 100/125 ppm at the quick connect for the coffee machine, verify the reading **at the RO** using the test port of the line marked for coffee. If the hardness falls within these limits, no further action is required. **If the readings are out of these limits, contact Coca-Cola for RO system service.**
- **If measured TDS falls below 35 ppm, contact Coca-Cola for recommendations on TDS adjustment solutions.**