

## PELCO ColdSpot® PRO and PLUS Microwave Water Load and Processing Surface Product No. 36116-10 PVC with Glass Surface and 36116-20 Polypropylene

The PELCO ColdSpot® serves as the water load and processing surface for your tissue samples, slides, slide staining container or other processing protocols.

### Features

- Provides a processing surface with an even, controllable temperature that eliminates hot spots/cold spots
- Dampens the standing wave patterns generated by the closed cavity design of microwave ovens
- Simplifies the operation of microwave processing by omitting the need for most microwave calibration
- Offers speed, control and simplicity, a true revolution in microwave processing
- Rests on the floor of any model PELCO® Microwave System, connecting to the PELCO® Load Cooler or PELCO® SteadyTemp™
- Holds cooled water which is continuously circulated between the PELCO ColdSpot® and the Load Cooler or PELCO® SteadyTemp™
- The 36116-10 with its glass surface is designed for use with the PELCO® 3435 Vacuum Chamber (Product No. 3435). The glass surface can be used as the base for PELCO® Microwave Vacuum Chamber to allow processing of samples directly on the water-cooled surface while under vacuum.
- Can be used with the Sequenza™ Slide Rack (Product No. 36105). Each rack holds ten slides at a time during microwave-assisted staining protocols.

### Installation and Operation of the PELCO ColdSpot® with a Load Cooler.

1. Install the hoses. With the PELCO ColdSpot® outside the microwave, route the red stripped silicone hose through the hole in the lid and connect to the fitting inside the reservoir. Connect the translucent hose to the fitting on the side of the reservoir. Set the ColdSpot® on a flat surface. Fill with water until the water level covers the side connection's inlet inside the reservoir. When the unit is filled outside the microwave any spills can be easily dried off prior to placement in the microwave. **NOTE:** Remove as many bubbles as possible under the top surface by lifting the reservoir end of the PELCO ColdSpot® and gently tapping the other end on the counter.
2. Insure that the Load Cooler is primed by following the instructions in the microwave manual.
3. Connect the two silicon rubber hoses that are supplied with the unit to the "Load-In" and "Load-Out" ports on the inside upper left rear of the microwave cavity. The red stripped hose should be attached to the "Load-Out" port. For older microwave models the Quick Disconnect fittings will have to be removed from the hoses.
4. Turn on the load cooler. Lift the end where the hoses are attached to remove any trapped air from under the top surface.
5. At the end of operation for the day or when the Load Cooler is turned off, disconnect the ColdSpot to prevent overflowing. On the PELCO BioWave® Pro unplugging the Quick Disconnect fittings will stop any flow and plug the ports. For older microwave models place a 600ml or larger beaker containing approximately 250ml of water on the PELCO ColdSpot®. Then disconnect the hoses from the PELCO ColdSpot® fittings and place the disconnected ends of the hoses in the beaker.

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6. To resume operation repeat steps 2-5. Check the water level. The water should cover the inlet to the outside connector.

## WARNINGS

- The designations of the "Load In" and "Load Out" ports on the PELCO ColdSpot<sup>®</sup> are reversed when used with the SteadyTemp<sup>™</sup> as opposed to use with the Load Cooler. See Fig. 1 and Fig. 4 for an explanation.
- Check the water level in the reservoir with the load cooler running to ensure the correct volume of water is in the unit prior to beginning a microwave protocol.
- If Step 5 of the operation instructions is not done at the end of the day or when the Load Cooler is turned off, water will drain back from the system and may cause the PELCO ColdSpot<sup>®</sup> to overflow into the microwave cavity.
- The PELCO ColdSpot<sup>®</sup> should never be used without running the Load Cooler. The maximum service temperature for the water inside the 36116-10 PRO unit is 60°C and inside the 36116-20 PLUS unit is 60°C or higher. This temperature will not be reached or exceeded with a properly operating Load Cooler.



**Figure 1**  
**PELCO ColdSpot<sup>®</sup> with the load ports configured for use with the Load Cooler**  
Patent #6329645

### Installation and Operation of the PELCO ColdSpot<sup>®</sup> with a PELCO<sup>®</sup> SteadyTemp<sup>™</sup>.

For the 34700 models if the SteadyTemp<sup>™</sup> is not connected to the BioWave<sup>™</sup>, unhook the load cooler tubing lines from the port on the rear of the microwave in order to attach the SteadyTemp<sup>™</sup> tubing lines. The plastic hose clamps can be removed by pushing or prying the two ends in opposite direction to disengage the teeth. Drain the tubes into a beaker while running the load cooler. Fold each end of these tubes and crimp with the hose clamp. Do not run the Load Cooler without water in it. The Red stripped hose from the SteadyTemp<sup>™</sup> is then clamped to the top "Load Out" port and the clear hose is clamped to the lower "Load In" port. The middle port is not used. The setup will look like Fig 2. For the PELCO BioWave<sup>®</sup> Pro the SteadyTemp<sup>™</sup> is connected to the "External In" and "External Out" fittings at the rear of the unit.

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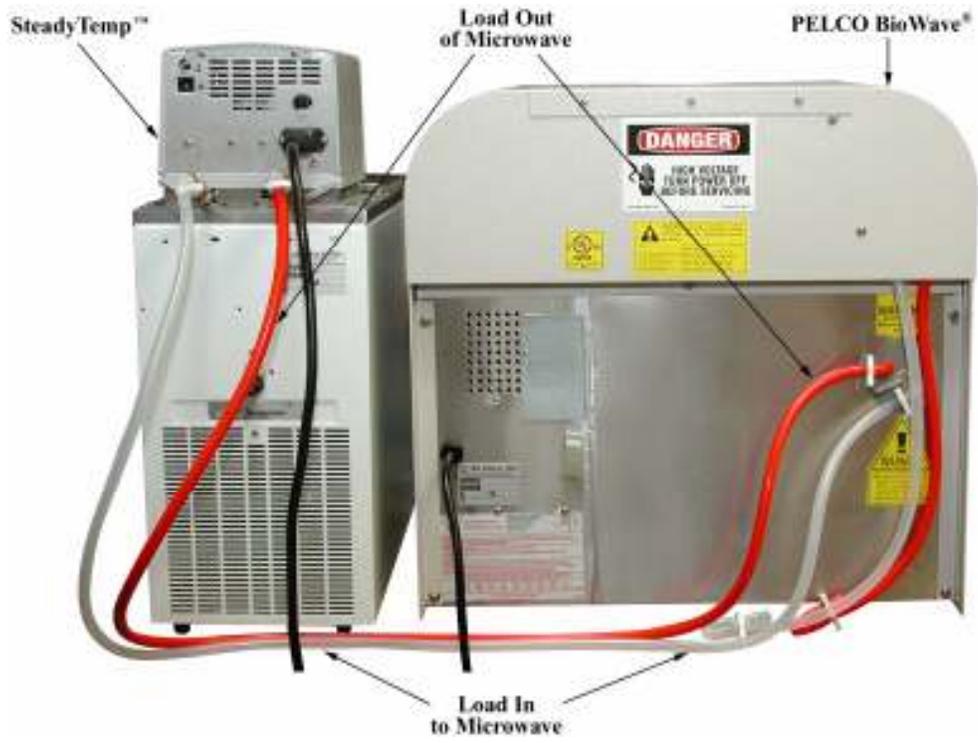
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1. The flow valve on the anti-siphon manifold of the SteadyTemp™ regulates the "Load In" flow.
2. Fill the SteadyTemp™ reservoir with 7.5 liters of water.
3. Open the flow valve on the supply line.
4. Install the hoses. With the PELCO ColdSpot® outside the microwave, route the translucent silicone hose through the hole in the lid and connect to the fitting inside the reservoir. Connect the red stripped hose to the fitting on the side of the reservoir. Set the ColdSpot® on a flat surface. Fill with water until the water level covers the side connection's inlet inside the reservoir. When the unit is filled outside the microwave any spills can be easily dried off prior to placement in the microwave. **NOTE:** Remove as many bubbles as possible under the top surface by lifting the reservoir end of the PELCO ColdSpot® and gently tapping the other end on the counter.
5. Connect the two silicon rubber hoses that are supplied with the unit to the "Load-In" and "Load-Out" ports on the inside upper left rear of the microwave cavity. The red stripped hose should be attached to the "Load-Out" port. For older microwave models the Quick Disconnect fittings will have to be removed from the hoses.  
On the PELCO BioWave® Pro model connect instead to the "External In" and "External Out" ports inside the microwave cavity. The red hose connects to the "External Out" port. The setup will look like Fig 3.
6. Press the I/O button on the SteadyTemp™ to turn it on. This will start circulation of the water into the PELCO ColdSpot®.
7. Add fluid to the SteadyTemp™ reservoir as necessary to maintain the water level between the high and low level markers.
8. Adjust the flow valve as required after the fluid reaches the "Load Out" return line opening in the PELCO ColdSpot® to restrict the supply flow to match the return flow, thus maintaining the desired level. When properly adjusted, the pump inlet will draw an occasional air bubble to prevent overflow. Maximizing the flow rate will optimize the temperature control of the PELCO ColdSpot®.
9. Set and adjust the temperature as instructed in the SteadyTemp™ manual and allow the water to reach that temperature. The maximum operation temperature of the PELCO ColdSpot® PRO is 60°C. The PELCO® SteadyTemp™ set point should be below 55°C in order to remain below 60°C during microwave processing. The temperature probe can be placed in the Temperature Probe Port of the PELCO ColdSpot® and the temperature restriction set at or below 60°C to protect the PELCO ColdSpot® PRO from overheating. The maximum operation temperature of the PELCO ColdSpot® PLUS is 90°C.

## WARNINGS

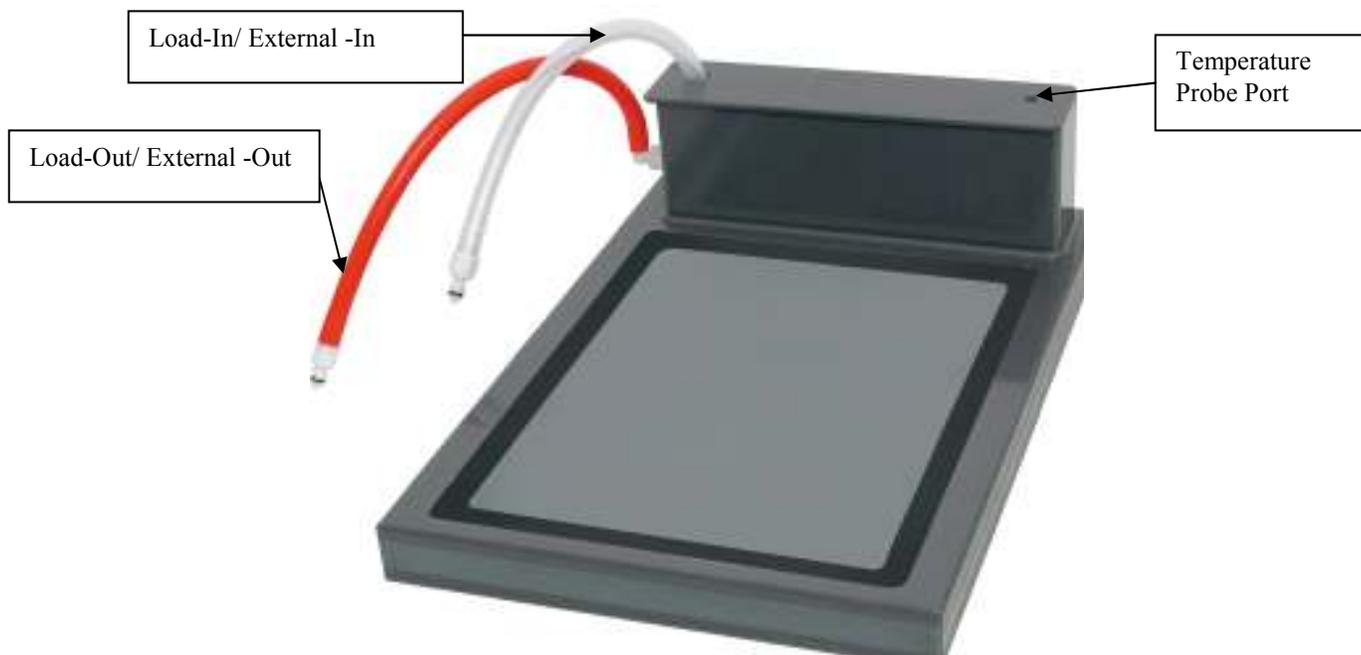
- The designations of the "Load In" and "Load Out" ports on the PELCO ColdSpot® are reversed when used with the SteadyTemp™ as opposed to use with the Load Cooler. See Fig. 1 and Fig. 4 for an explanation.
- The Load Cooler controls should not be used. Do not run the Load Cooler without water in it as this will damage the pump. The user has to make sure the SteadyTemp™ is on when operating the BioWave™ with the PELCO ColdSpot®. The PELCO ColdSpot® should never be used without running the SteadyTemp™. The maximum service temperature for the water inside the PELCO ColdSpot® PRO unit is 60°C. The microwave temperature restriction should be set at or below this temperature.
- The SteadyTemp™ now has an anti-siphon manifold that break vacuum when the power is turned off. This prevents siphoning of solution from the SteadyTemp™ reservoir to the PELCO ColdSpot®. On the PELCO BioWave® Pro unplugging the Quick Disconnect fittings will also stop any flow and plug the ports.



**Figure 2**  
**Model 34700 PELCO BioWave®**



**Figure 3**  
**Model 36500 PELCO BioWave®**



**Figure 4**  
**PELCO ColdSpot® with the load port configured for use with the PELCO SteadyTemp™.**  
Patent No. 632964