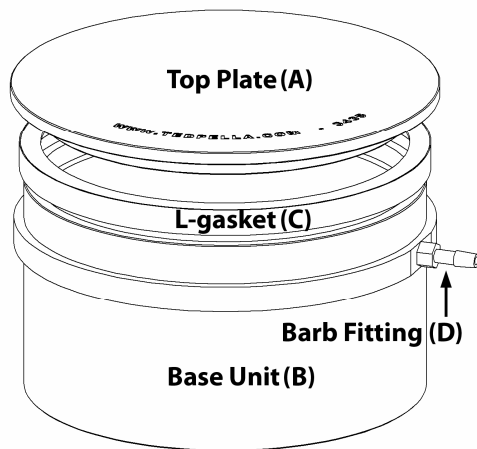


QPELCO[®] EM Pro Vacuum Chamber Product No. 3536

The New PELCO[®] EM Pro Vacuum Chamber is designed for use inside all PELCO[®] Microwave Tissue Processors.

- Made of chemically resistant, microwave-transparent polypropylene and designed for vacuums down to 20" of Hg and temperatures up to 70° C.
- Improves ultrastructural preservation during microwave-assisted chemical fixation. Reduces fixation times by up to 90% when compared to conventional bench processing protocols.
- Reduces resin infiltration times by 99% compared to conventional bench processing and 85% when compared to established microwave protocols.

The PELCO[®] EM Pro Vacuum Chamber is made up of the following components:



Top Plate (A) and the Base Unit which forms the chamber (B) with L-gasket (C). The base unit is fitted with a ¼" Barb Fitting (D) to attach the vacuum hose.

The L-gasket is secured by a gasket retaining band (not shown) (Product #000-400)

It is supplied with a ¼" vacuum hose and PTFE O-Clamp's for securing the vacuum hose to the internal vacuum port inside the microwave cavity (items not shown).

When unpacking the vacuum chamber, make sure that all the individual pieces are there.

Figure 1

An optional Top Plate with feedthrough fitting (Product #3536-10) that is designed for use with the PTFE-coated temperature probe (Prod. No. 36145-T) supplied with the PELCO BioWave[®]. Systems is also available. This Top Plate comes with a compression fitting with two caps. One cap has no hole and is used to seal the fitting when the temperature probe is not inserted through the plate. The other cap has a hole for the temperature probe insertion, enabling its use under vacuum for temperature restriction.

INSTALLATION

On the 3400 series microwaves, one end of the internal vacuum hose should be attached to the ¼" Barb Fitting and the other end to the unused feedthrough in the rear of the microwave cavity. A vacuum hose attached to the outside feedthrough tube can be connected to a vacuum pump or house vacuum.

On the BioWave[®] series of microwaves, one end of the internal vacuum hose should be attached to the ¼" Barb Fitting (D) and the other end to the vacuum connector on the right side of the microwave cavity.

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OPERATION

The chamber is tested to $<1 \times 10^{-1}$ torr (.004" of Hg). When using vacuum in the microwave for fixation or infiltration (resin or paraffin), the recommended vacuum level is 20" of Hg (508 torr). The PELCO BioWave[®] and BioWave[®] Pro is preset to this vacuum level. For other PELCO[®] microwaves an oil-less vacuum/pressure pump is recommended. A vacuum gauge calibrated to 30" of Hg should be used. A vacuum pump is available with these specifications from Ted Pella, Inc. (Prod. No. 3436). The PELCO BioWave[®] and BioWave[®] Pro will automatically vent when the vacuum function is turned off. In all other microwaves the tube will have to be pulled to vent the chamber.

The vacuum chamber is made from microwave transparent materials. The chamber is designed so that vacuum grease is not required during operation. Prior to turning on the vacuum pump, make sure the Top Plate is evenly seated on the L-gasket of the Base Unit. A slight hand pressure may be applied to the Top Plate to facilitate a vacuum.

For prolonged microwave steps (>5 minutes) the temperature probe—supplied with the PELCO[®] Microwave Tissue Processors—should be used to control heating inside the chamber. The optional Top Plate configuration (Product #3536-10) is available to facilitate the temperature probe. Care should be taken when venting the vacuum chamber so that fluids do not boil out into the microwave cavity.

We recommend the use of the PELCO[®] EM Pro Vacuum Chamber for microwave-assisted chemical fixation and infiltration of resins and paraffin into tissue. All other applications should be carefully researched and tested prior to incorporation as part of a protocol.

PARTS

Product No.	Description	
3536	PELCO [®] EM Pro Vacuum Chamber Includes all components as shown in the description next to Fig.1.	each
3435-1	Replacement Vacuum Chamber "L" Gaskets	Pkg/2
000-400	Gasket Retaining Band	Pkg/3
3536-10	Top Plate with Temperature Probe Port (optional accessory)	each



WARNING: The use of vacuum with solvents is not recommended. Temperature restrictions below 70°C must be used for vacuum-assisted processing steps where water is present and below 40°C where formalin is present, otherwise the liquid will boil and be drawn into the vacuum system. This will severely damage the vacuum components of the BioWave[®] and BioWave[®] Pro and will prevent a vacuum from being achieved.