The PAL® System
from MicroAire® Aesthetics

- Proven Cell Viability\(^2,3,4\)
- Faster Procedure\(^7\)
- Less Surgeon Fatigue\(^7\)
- Precision Engineering
- Patented Technology
- Made in America
PAL® is the most widely used and preferred alternative to manual liposuction.¹

- Proven Cell Viability ²,³,⁴
- Less Bruising ⁷
- Less Swelling ⁷
- Less Surgeon Fatigue ⁷
- Faster Procedure ⁷

Only PAL® can offer this increased speed and ease-of-use.

“*It’s dramatic how much better patients feel, how much more effectively we can treat them, how much more satisfied they are, and how far superior the results are compared to [traditional liposuction].*”

- Dr. Gerhard Sattler
The PAL® System from MicroAire® Aesthetics

The PAL®-650 from MicroAire® Aesthetics is a powerful, precision instrument designed for small- or large-volume fat extraction, artistic body contouring, and harvesting fat rich in adipose-derived regenerative cells (ADRC).²

PAL’s® smooth reciprocating cannulas glide through tissue, reducing the amount of physical effort required during liposuction and also reducing your O.R. time.⁷

Reciprocation also increases your control, helping you to gently guide the cannula with greater accuracy, even through dense fibrous tissue.

The result is a faster procedure, less fatigue for you and more precise outcomes for your patients.⁷

Adipocytes and ADRCs harvested with PAL® are just as healthy and viable as cells harvested using manual liposuction; and PAL® produces higher yields of loosely adherent stem cells, which may improve graft retention.², ³, ⁴

Try PAL® and see for yourself how much better your body contouring and fat-grafting results can be. You’ll wonder how you ever got along without it.

- PAL® does not use heat, like lasers or ultrasound energy which can damage cells and injure patients.
- PAL® was shown to provide the greatest preservation of surrounding tissues and septal fibers.⁵
- The PAL® fluid pathway connects directly from the cannula to the sterile tubing - so tissue stays pure and clean. With knock-off devices, fluids can pass through the handpiece containing bio-contaminants from previous patients even after sterilization.
- Vibration dampening technology makes PAL® more comfortable than imitations.
- PAL® is powered by a strong electric console, so it won’t bog down like air-powered devices.

Features:
- Fully autoclavable handpiece and cable
- Speed control on the handpiece and also on the power console
- Works with any infiltration and aspiration system
- 2mm reciprocating stroke at 4,000 cycles per minute
- Anodized aluminum body
- Weight: 1.1 lb (0.5 kg)
- Size: 8” x 1” x 1.5” (20.3 x 2.5 x 3.8 cm)
Small variations in the number of ports, as well as their size and location on the cannula, can have a significant impact on performance and outcome. MicroAire® has developed several port configurations, based on clinical studies and recommendations from our customers.

### Extraction

Most popular cannulas for large-volume debulking and body contouring:

<table>
<thead>
<tr>
<th>Cannula</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercedes</td>
<td>All-around top-selling cannula for liposuction</td>
</tr>
<tr>
<td>Double Mercedes</td>
<td>High-performing in fibrous tissue such as gluteal</td>
</tr>
<tr>
<td>Triport II</td>
<td>Ports only on one side (270°) to prevent dimpling</td>
</tr>
</tbody>
</table>

### Harvesting

These are well-suited for producing small, consistent lobules for fat grafting:

<table>
<thead>
<tr>
<th>Cannula</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Multi-Hole</td>
<td>2mm openings produce lobules optimized for vascularization</td>
</tr>
<tr>
<td>Del Vecchio Track-12</td>
<td>Most efficient cannula for harvesting small lobules to be grafted</td>
</tr>
<tr>
<td>Triport IV</td>
<td>Good for feathering contours while harvesting small lobules</td>
</tr>
</tbody>
</table>

### Specialty

PAL® reciprocation provides cannula uses that go beyond liposuction:

<table>
<thead>
<tr>
<th>Cannula</th>
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</tr>
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<tbody>
<tr>
<td>Helixed Tri-Port</td>
<td>Ideal for treating gynecomastia and lipoma</td>
</tr>
<tr>
<td>Spatula</td>
<td>Releases adhesions to allow for fat grafting beneath scars</td>
</tr>
<tr>
<td>Flared Mercedes</td>
<td>Useful for pre-tunneling and breaking up fat prior to harvesting</td>
</tr>
</tbody>
</table>

See the complete listing of PAL Cannulas in the separate Cannula brochure or online at [www.microaire.com](http://www.microaire.com).
PAL® has similar complication rates, speed of recovery, bleeding (with the tumescent technique), and aesthetic results as those of traditional suction-assisted liposuction, while it is superior in terms of ease of fat removal.\(^8\)

PAL® outperformed traditional, suction-assisted liposuction. PAL® decreased surgeon fatigue and reduced procedural time.\(^9\)

The number of viable ASC and the proliferation rates did not significantly differ between PAL® and manual aspiration. PAL® is a feasible method for harvesting fat tissue containing viable ASC. Quantity and quality of PAL-harvested ASC is similar or even better compared to ASC harvested manually.\(^2\)

Compared to traditional liposuction, PAL® took 35% less time, resulted in 45% less intraoperative pain, and resulted in 49% less surgeon fatigue. The amount of fat aspirated per minute with PAL® was 31% greater. PAL® led to faster healing and recovery for patients. Due to reduced surgeon fatigue, PAL® offers safer and more precise surgery.\(^7\)

Tissue collected using PAL® is not different from tissue collected by manual aspiration.\(^2, 3, 4, 10\)

PAL® is the most widely used and preferred alternative to traditional, manual liposuction.\(^1\)

**What do the studies say?**

PAL® is safe, fast and capable of producing results equal or superior to those achieved through use of traditional lipoplasty.\(^6\)
ASP-1021

**PAL® LipoTower™ (USA Only)**
- Sturdy and powerful surgical cart used for tumescent liposuction
- Strong, reliable pumps for both infiltration and aspiration
- Touchscreen interface and integrated PAL control system
- The only UL®-listed liposuction cart on the market
- Vacuum Pump: Dual 1/4-Horsepower, Rotary Vane
- Vacuum Flow Rate: 3.0 SCFM (0.08 m³/min)
- Vacuum Pressure: 0–29 in/Hg (0–736 mm/Hg)
- Infiltration Pump: Peristaltic
- Infiltration Flow Rate: 50–700 ml/min
- Weight: 185 lbs (84 kg)
- Height: 4’ (1.2 m) pole down
  7’ (2.1 m) pole extended
- Footprint: 2’ × 2’ (0.6 m × 0.6 m)
- Electrical: 120 V, 60 Hz (UL-Listed)

5020 Console

**MicroAire® Standard Electric Console**
- Provides power to the PAL®-650 Handpiece
- Simple touch-screen interface
- Controls two PAL handpieces at once
- Weight: 14 lbs (6.35 kg)
- Height: 6” (15.24 cm)
- Footprint: 12” × 14” (30.48 cm × 35.56 cm)
- Electrical: 300 W, 100-240 V, 50/60 Hz

ASP-CAN-2S LipoFilter

**LipoFilter® Gravity-Decant Fat Processor**
- Three-liter fat harvesting and separation system
- Large-volume decanting and washing
- No centrifuge needed
- Works with any lipo system
- Sterile-packed, single-use

PAL-500

**Sterilization Case**
- Accommodates two handpieces, electric cable and up to ten cannulas
- Fits in most standard autoclaves

PAL-730

**PAL® Wand**
- An ergonomic manual handpiece for sensitive areas (such as the neck and back)
- Compatible with all PAL® cannulas

PAL® Accessories
To order, call toll free **800-722-0822**

<table>
<thead>
<tr>
<th>REF Number</th>
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<tbody>
<tr>
<td><strong>PAL® Component Part Numbers</strong></td>
<td></td>
</tr>
<tr>
<td>PAL-650</td>
<td>PAL® Powered Handpiece</td>
</tr>
<tr>
<td>5006-PAL</td>
<td>PAL® Cable (For use only with the 5020 Console)</td>
</tr>
<tr>
<td>5020</td>
<td>PAL® Electric Console</td>
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<td>ASP-1021</td>
<td>LipoTower™ with Aspiration and Infiltration (USA Only)</td>
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<td><strong>PAL® Accessories Part Numbers</strong></td>
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<tr>
<td>CAP-600E</td>
<td>PAL® Washer Disinfector Cap</td>
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<tr>
<td>PAL-500</td>
<td>PAL® Sterilization Case</td>
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<tr>
<td>PAL-700</td>
<td>PAL® Single-Use Luer Adaptor</td>
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<td>PAL-730</td>
<td>PAL® Wand™ Manual Handpiece</td>
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<tr>
<td>PAL-900</td>
<td>PAL® Aspiration Tubing, 2.75m (6PK)</td>
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<tr>
<td>PAL-1200</td>
<td>PAL® Aspiration Tubing, 3.66m (5PK)</td>
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<tr>
<td>ASP-CAN-2S</td>
<td>LipoFilter®</td>
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<tr>
<td>ASP-ADP-2</td>
<td>Adapter - Toomey-to-Luer Syringe</td>
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<tr>
<td>ASP-ADP-3</td>
<td>Adapter - Toomey-to-Luer Needle</td>
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3 Cytori Commissioned Study, Evaluation of MicroAire Tissue Collection Method on Adipose Tissue and ADRCs. 2011.


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