

PAL[®]
BY MICROAIRE



PAL[®]

Power-Assisted Liposuction System

PAL® System

PAL-650 Handpiece

The PAL-650 from MicroAire® is a powerful precision instrument designed for small or large volume fat extraction, body contouring, and fat harvesting.

Reciprocation increases control, helping the surgeon gently guide the cannula with greater accuracy, even through dense fibrous tissue. The result is a faster procedure, less fatigue and more precise outcomes.¹

Weight	1.1 lb (0.5 kg)
Dimensions	8" x 1" x 1.5" (20.3 x 2.5 x 3.8 cm)
Stroke Length	3.2 mm
Maximum Speed	4,000-5,000 cycles/min

5020 Standard Electric Console

The Console can control two PAL Handpieces at once. Speed can be controlled on the touchscreen interface or on the Handpiece.

Weight	14 lb (6.35 kg)
Height	6" (15.24 cm)
Footprint	12" x 14" (30.48 x 35.56 cm)
Electrical	300 W, 100-240 V, 50/60 Hz



MicroAire makes sure you have what you need for surgery with complimentary loaner equipment during repairs for 5 years.

Compare PAL to Traditional Liposuction

Fast

Clinical studies comparing the PAL system to manual liposuction found that **PAL aspirates 31% more volume per minute leading to a 35% reduction in procedure time.**¹

Precise

PAL is proven to reduce surgeon fatigue by 49%, offering a safer and more precise procedure. These benefits result in superior outcomes and faster healing and recovery rates for patients.¹

Viable

The quality of PAL-harvested adipocytes has been shown to be similar to those harvested by manual liposuction and **PAL produces higher yields of loosely adherent stem cells**, which may improve graft retention.^{2,3,4}

"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

Proven Results

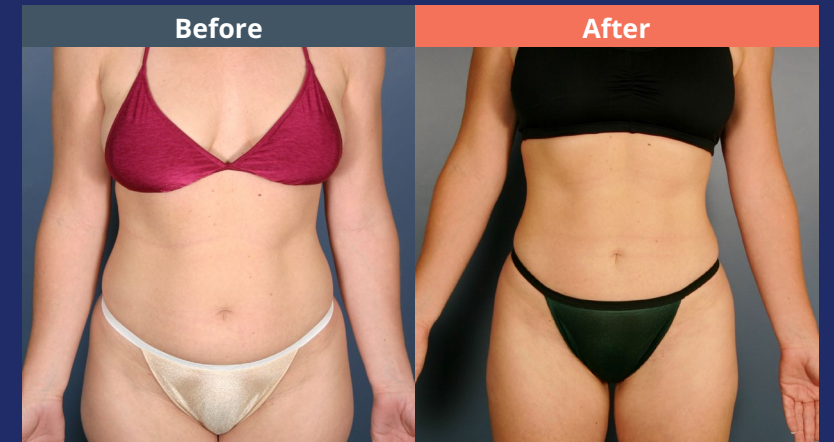


Photo courtesy of David Kaufman, MD



Photo courtesy of Dr. El-Atar



Photo courtesy of Dr. El-Atar



Photo courtesy of Dr. El-Atar

Single-Use Liposuction Cannulas

ASPIRATION

	Tip Style	Part Number	Diameter	Length	Port Length
Single-Port Cannulas  <ul style="list-style-type: none"> • 90° of extraction • Non-aggressive • Good for sensitive areas such as the neck and back 	Single Port	PAL-300LL	3mm	30cm	8mm
		PAL-300LS	3mm	22cm	8mm
		PAL-300SS	3mm	22cm	6mm
		PAL-240LS	2.4mm	22cm	7.5mm
		PAL-240SS	2.4mm	22cm	5mm
		PAL-240LM	2.4mm	15cm	7.5mm
Mercedes Cannulas  <ul style="list-style-type: none"> • 360° of extraction • Moderately aggressive • The most popular cannula style 	Mercedes	PAL-504LL	5mm	30cm	10mm
		PAL-504LS	5mm	22cm	10mm
		PAL-404LL	4mm	30cm	10mm
		PAL-404LS	4mm	22cm	10mm
		PAL-304LL	3mm	30cm	8mm
		PAL-304LS	3mm	22cm	8mm
		PAL-304LM	3mm	15cm	8mm
		PAL-244LM	2.4mm	15cm	7.5mm
Double Mercedes Cannulas  <ul style="list-style-type: none"> • 360° of extraction • Aggressive • Good for fibrous tissue and large-volume extraction 	Double Mercedes	PAL-505LL	5mm	30cm	10mm
		PAL-505LS	5mm	22cm	10mm
		PAL-405LL	4mm	30cm	10mm
		PAL-405LS	4mm	22cm	10mm
		PAL-506LL	5mm	30cm	10mm
Mirrored Tri-Port II Cannulas  <ul style="list-style-type: none"> • 270° of extraction • Aggressive 	Mirrored Tri-Port II	PAL-506LS	5mm	22cm	10mm
		PAL-406LL	4mm	30cm	10mm
		PAL-406LS	4mm	22cm	10mm
		PAL-402LL	4mm	30cm	10mm
Tri-Port II Cannulas  <ul style="list-style-type: none"> • 270° of extraction • Moderately aggressive 	Tri-Port II	PAL-402LS	4mm	22cm	10mm
		PAL-302LL	3mm	30cm	8mm
		PAL-302LS	3mm	22cm	8mm
		PAL-403LL	4mm	30cm	10mm
Tri-Port III Cannulas  <ul style="list-style-type: none"> • 90° of extraction • Moderately aggressive 	Tri-Port III	PAL-403LS	4mm	22cm	10mm
		PAL-303LL	3mm	30cm	8mm
		PAL-303LS	3mm	22cm	8mm
		PAL-30MLL	3mm	30cm	1.9mm
		PAL-30MLS	3mm	22cm	1.9mm
Multi-Hole Cannulas  <ul style="list-style-type: none"> • 360° of extraction • Non-aggressive 	Multi-Hole	PAL-30MLM	3mm	15cm	1.9mm

Del Vecchio Track-12 Cannulas



- 270° of extraction
- Aggressive

Helixed Tri-Port III Cannulas



- 270° of extraction
- Aggressive
- Ideal for gynecomastia cases

Spatula Cannulas



- 90° of extraction
- Short, non-aggressive cannula with a blunt tip

Flared Mercedes Cannulas



- 360° of extraction
- Aggressive
- Ideal for debulking, dissection, and pre-tunneling

Bent Cannulas



- Effective for pre-tunneling
- Good for debulking and extraction

Turbo Cannulas









- Allows air to vent through the tube during liposuction for better flow rates
- Not recommended for harvesting fat to be re-injected

HD Cannulas



- 270° of extraction
- Moderately aggressive

	Tip Style	Part Number	Diameter	Length	Port Length
 <ul style="list-style-type: none"> • 270° of extraction • Aggressive 	Track-12	PAL-4012LL	4mm	30cm	6mm
		PAL-3012LS	3mm	22cm	6mm
 <ul style="list-style-type: none"> • 270° of extraction • Aggressive • Ideal for gynecomastia cases 	Helixed Tri-Port III	PAL-507LL	5mm	30cm	10mm
		PAL-507LS	5mm	22cm	10mm
		PAL-407LL	4mm	30cm	10mm
		PAL-407LS	4mm	22cm	10mm
 <ul style="list-style-type: none"> • 90° of extraction • Short, non-aggressive cannula with a blunt tip 	Spatula (Three-Hole)	PAL-30S3	3mm	15cm	1.5mm
	Spatula (Two-Hole)	PAL-30S2	3mm	15cm	1.5mm
	Spatula (Single-Hole)	PAL-24S1	2.4mm	15cm	3mm
 <ul style="list-style-type: none"> • 360° of extraction • Aggressive • Ideal for debulking, dissection, and pre-tunneling 	Flared Mercedes	PAL-508LL	5mm	30cm	10mm
		PAL-508LS	5mm	22cm	10mm
		PAL-408LL	4mm	30cm	9mm
		PAL-408LS	4mm	22cm	9mm
		PAL-308LL	3mm	30cm	8mm
		PAL-308LS	3mm	22cm	8mm
 <ul style="list-style-type: none"> • Effective for pre-tunneling • Good for debulking and extraction 	Bent Flared Mercedes	PAL-508LLB	5mm	30cm	10mm
		PAL-408LLB	4mm	30cm	9mm
	Bent Mercedes	PAL-404LLB	4mm	30cm	10mm
		PAL-304LLB	3mm	30cm	8mm
 <ul style="list-style-type: none"> • Allows air to vent through the tube during liposuction for better flow rates • Not recommended for harvesting fat to be re-injected 	Double Mercedes	PAL-505LLT	5mm	30cm	10mm
		PAL-405LLT	4mm	30cm	10mm
	Helixed Tri-Port III	PAL-507LLT	5mm	30cm	10mm
		PAL-404LLT	4mm	30cm	10mm
Mercedes	PAL-404LST	4mm	22cm	10mm	
	PAL-40HLLB	4mm	30cm	10mm	
Left Bent HD	PAL-50HLLB	5mm	30cm	10mm	
	PAL-40HLL	4mm	30cm	10mm	
Straight HD	PAL-50HLL	5mm	30cm	10mm	
	PAL-40HLRB	4mm	30cm	10mm	
Right Bent HD	PAL-50HILRB	5mm	30cm	10mm	

ASPIRATION

Infiltration

Infiltration Pump

The PAL Infiltration Pump is the only infiltration pump that can be activated from the PAL-650 Handpiece.



Pump Type	Peristaltic
Maximum Flow Rate	1,150 mL/min
Output Torque	175 oz-in
Weight	9.3 lb (4.2 kg)
Dimensions	11.2" x 10.1" x 5.1" (29 x 26 x 13 cm)



PAL® Infiltration Tubing



Infiltration Cannulas

Flared Mercedes Cannulas

- 360° of infiltration

Tip Style	Multi-Use	Single-Use	Diameter	Length	Port Length
Flared Mercedes	PAL-INF-R408LL	PAL-INF-408LL	4mm	30cm	9mm
	PAL-INF-R408LS	PAL-INF-408LS	4mm	22cm	9mm
	PAL-INF-R408XL	-	4mm	40cm	9mm
	PAL-INF-R508LL	PAL-INF-508LL	5mm	30cm	10mm
	PAL-INF-R508LS	PAL-INF-508LS	5mm	22cm	10mm
Multi-Hole	PAL-INF-R30MLL	PAL-INF-30MLL	3mm	30cm	1.9mm
	PAL-INF-R30MLS	PAL-INF-30MLS	3mm	22cm	1.9mm
	PAL-INF-R30MLM	PAL-INF-30MLM	3mm	15cm	1.9mm

Multi-Hole Cannulas

- 360° of infiltration

LipoTower® & LipoFilter®

LipoTower® (USA and Canada Only)

The PAL LipoTower is a powerful surgical cart with strong, reliable pumps for both infiltration and aspiration. It includes a touchscreen interface and integrated PAL control system.

Vacuum Pump	Dual 1/4-Horsepower, Rotary Vane
Vacuum Flow Rate	3.0 SCFM (0.08 m ³ /min)
Vacuum Pressure	0–29 in/Hg (0–736 mm/Hg) at Sea Level
Infiltration Pump	Peristaltic
Infiltration Flow Rate	50–600 ml/min
Weight	185 lb (84 kg)
Height	4' (1.2 m) pole down 7' (2.1 m) pole extended
Footprint	2' x 2' (0.6 m x 0.6 m)
Electrical	120 V, 60 Hz (UL-Listed)



LipoFilter®

The LipoFilter is a large-volume gravity-decant fat processing system. It is sterile-packed, single-use, and works with any liposuction system.

Total Volume	3,000 ml
Working Volume	2,500 ml

To order, call toll free **800.722.0822**

Ordering Information

PAL[®] Part Numbers

PAL-650	PAL Powered Handpiece
5006-PAL	PAL Cable
5020	PAL Electric Console
CAP-600E	PAL Washer Disinfectant Cap
PAL-730	PAL Wand Manual Handpiece
PAL-1200	PAL 12ft (3.66 m) Aspiration Tubing (5pk)
ASP-1021	LipoTower [®] (USA and Canada only)
ASP-CAN-2S	LipoFilter [®] (Toomey Syringe Included)
ASP-CAN-NT	LipoFilter [®] (Syringe Not Included)
INF-KIT	PAL Infiltration Pump Kit
PAL-INF-1600	PAL Infiltration Tubing

1. Katz BE, Bruck MC, Coleman WP. The Benefits of Powered Liposuction Versus Traditional Liposuction: A Paired Comparison Analysis. 2001. *Dermatol Surg*; 27:863-967.
2. Keck M, Kober J, Riedl O, Kitzinger HB, Wolf S, Stulnig TM, Zeyda M, Gugerell A. Power Assisted Liposuction to Obtain Adipose-derived Stem Cells: Impact on Viability and Differentiation to Adipocytes in Comparison to Manual Aspiration. *J Plast Reconstr Aesthet Surg*. 2014 Jan;67(1):e1-8. doi: 10.1016/j.bjps.2013.08.019. Epub 2013 Sep 3.
3. Cytori Commissioned Study, Evaluation of MicroAire Tissue Collection Method on Adipose Tissue and ADRCs. 2011.
4. InCell Commissioned Study, Comparison of Cells Isolated from Fat Collected by Power-Assisted Liposuction (PAL) or Suction Assisted Liposuction (SAL). 2011.

Indications and claims are for USA only.

Learn more about our products, including the PAL[®] System, on www.microaire.com.

MicroAire Surgical Instruments
3590 Grand Forks Boulevard
Charlottesville, VA 22911 USA
800 722 0822 or +434 975 8000
www.microaire.com

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