

# Infrared Light Body Contouring Platform - Official Clinical Overview & Technical Datasheet

## EXECUTIVE SUMMARY

This document provides a comprehensive clinical and technical overview of the Infrared Light Body Contouring Platform, a non-invasive medical aesthetic system designed for circumferential fat reduction and body contouring. The platform utilizes targeted infrared energy to induce adipocyte apoptosis while preserving surrounding tissue integrity. Intended for deployment in dermatology clinics, medical spas, and hospital-based aesthetic centers, the system offers high patient comfort, minimal downtime, and reproducible clinical outcomes.



## CLINICAL ARCHITECTURE & DESIGN

The platform integrates a multi-lamp infrared heating array operating within the 850 – 1100 nm spectral band, optimized for selective adipocyte photothermolysis. A real-time temperature monitoring feedback loop and contact cooling interface ensure consistent energy delivery and epidermal protection. The treatment handpiece features a contoured applicator geometry to conform to common body zones including the abdomen, flanks, thighs, and submental region. A 10.4-inch capacitive touchscreen UI supports operator-guided treatment parameter selection and patient case logging.

#### KEY INDICATIONS & CAPABILITIES

- Non-invasive reduction of subcutaneous adipose tissue
- Circumference reduction of abdomen, flanks, and lateral thighs
- Post-liposuction residual contour refinement
- Body shaping adjunct for diet and exercise resistant areas
- Fitzpatrick Skin Types I–IV (extended safety verified for Types V–VI with modified protocols)

#### COMPLIANCE & STANDARDS

The system complies with applicable medical device regulations including CE

0476 (Medical Devices Directive 93/42/EEC) and FDA 510(k) clearance for non-invasive fat reduction. Additional certifications include IEC 60601-1 (Electrical Safety), IEC 60601-2-22 (Laser and intense light equipment), and ISO 13485:2016 for quality management systems.

## TECHNICAL SPECIFICATIONS

Parameter	Specification
Emission Type	Broadband Infrared (IR-A)
Spectral Range	850 – 1100 nm (peak at 915 nm)
Spot Size	4.5 cm <sup>2</sup> (standard applicator)
Fluence Range	30 – 65 J/cm <sup>2</sup>
Pulse Duration	Continuous / 10–25 min per zone
Cooling System	Active Sapphire contact + TEC + Forced air
Maximum Skin Temperature	42°C (controlled limit)
Maximum Subcutaneous Temperature	48°C (automatic shutoff)
Handpiece Weight	380g (lightweight ergonomic)
Power Supply	110–240V AC, 50/60 Hz, 850W
Dimensions (base unit)	520mm L x 480mm W x 1100mm H
Screen	10.4 inch capacitive touch, 1280x800
Patient Database	Up to 10,000 records onboard

Calibration Interval	12 months or 2500 treatment cycles
Warranty	24 months base unit, 12 months handpiece

## CLINICAL PROTOCOLS

A standard treatment regimen consists of two 25-minute sessions per target area, spaced 7 to 10 days apart. Recommended energy fluence ranges from 35 to 52 J/cm<sup>2</sup>, titrated based on patient tolerance and adipose thickness measured via calipers. Epidermal temperature is maintained between 35°C and 42°C via active contact cooling, while target subcutaneous temperature reaches 44 – 47 ° C to induce adipocyte apoptosis without thermal necrosis. Post-treatment erythema and mild tenderness resolve typically within 1 – 4 hours. Circumference reduction averaging 2.5 – 5.0 cm per treated area is observed at 12 weeks post-final session.

