High-Frequency RF Aesthetic Platform - Official Clinical Overview & Technical Datasheet

EXECUTIVE SUMMARY

The High-Frequency RF Aesthetic Platform represents a paradigm shift in non-invasive dermal remodeling and body contouring. Utilizing a proprietary 2.0 MHz to 5.0 MHz dynamic radiofrequency emission algorithm, this system delivers targeted volumetric heating to the reticular dermis and subcutaneous adipose compartments while preserving the epidermal barrier. Designed for high-volume medical spas and dermatology clinics, the platform integrates real-time impedance matching and contact temperature monitoring to ensure consistent clinical outcomes across Fitzpatrick skin types I-V.

CLINICAL ARCHITECTURE & DESIGN

The platform employs a solid-state RF generator coupled with a closed-loop cryogen-free cooling engine. A 7-inch capacitive touchscreen UI hosts six pre-configured treatment protocols (Face Tightening, Body Contouring, Acne Reduction, Cellulite Management, Neck Rejuvenation, Post-Lipo Refinement). The handpiece incorporates a bipolar fractional electrode array with a high-frequency tissue penetration depth of 12mm – 18mm at nominal power. A real-time thermal camera (optional accessory) provides continuous temperature feedback, automatically modulating RF output to maintain a clinical target zone of 40°C – 43°C in the dermis while the sapphire contact plate maintains surface temperature at 5°C – 10°C.

KEY INDICATIONS & CAPABILITIES

- Dermal collagen denaturation and neocollagenesis (face, neck, periorbital region)
- Submental fat reduction (improved cervicomental angle)
- Circumferential reduction of abdomen, flanks, and thighs
- Non-ablative treatment of mild to moderate acne vulgaris
- Improvement of skin laxity on upper arms and knees
- Temporary reduction in the appearance of cellulite

COMPLIANCE & STANDARDS

The device carries CE 1639 (Medical Device Regulation (EU) 2017/745) and FDA 510(k) clearance (Class II). Manufacturing complies with ISO 13485:2016 and IEC 60601-2-2 (particular requirements for high-frequency surgical equipment). Electrical safety meets IEC 60601-1 (3rd edition). Electromagnetic compatibility per IEC 60601-1-2:2014.

TECHNICAL SPECIFICATIONS

- RF Frequency: 2.0 MHz / 3.5 MHz / 5.0 MHz (selectable by protocol)
- Output Power: 0 – 200W (continuous / pulsed mode)
- Pulse Duration: 50ms – 10s (1ms increments)
- Cooling System: TEC (Peltier) + Sealed water circulation + Forced air
- Contact Cooling Range: -5°C to +20°C (±1°C accuracy)
- Electrode Configuration: Bipolar matrix, 49 micro-electrodes per cm²
- Treatment Depth: 10mm (superficial) / 18mm (deep) via impedance feedback
- Handpiece cable length: 2.5m (flexible, shielded)
- Main unit dimensions: 420mm (W) x 520mm (D) x 1050mm (H)
- Weight: 28kg (unit alone), 32kg with handpiece and cable
- Power supply: 100-240VAC, 50/60Hz, max 800VA

Parameter	Specification
RF Frequency Range	2.0 MHz / 3.5 MHz / 5.0 MHz (selectable)
Max Output Power	200W (continuous / pulsed)
Cooling Type	TEC + Water circulation + Forced air (Closed loop)
Treatment Depth	10mm (superficial) / 18mm (deep, via impedance feedback)
Contact Cooling Range	-5°C to +20°C (±1°C accuracy)
Power Supply	100-240VAC, 50/60Hz, max 800VA

CLINICAL PROTOCOLS (Excerpt)

Face & Neck Tightening: 5 passes, 65W, 3.5MHz, 10mm depth, 12°C cooling, 8-minute treatment.

Body Contouring (Abdomen): 3 passes, 150W, 2.0MHz, 18mm depth, 8°C cooling, 20-minute treatment.

Acne Reduction: 2 passes, 45W pulsed (500ms on/500ms off), 5.0MHz, superficial, 15°C cooling, 6-minute treatment per zone.

Post-treatment observation: Transient erythema (30-90 min), no mandatory downtime. Recommended interval: 1 treatment every 14 days for 6-8 sessions,

then quarterly maintenance.

DISCLAIMER: This document is for informational purposes only. Clinical outcomes may vary based on patient anatomy, operator technique, and adherence to contraindications. Always consult the full operator manual before first use.