Radio Frequency Cellulite Massager Machine - Official Clinical Overview & Technical Datasheet

CLINICAL HIGHLIGHTS

The Radio Frequency (RF) Cellulite Massager Machine represents a non-invasive aesthetic platform engineered to remodel subcutaneous adipose tissue architecture and improve dermal microcirculation. The device delivers controlled bipolar RF energy combined with mechanical massage action to disrupt fibrous septae, stimulate collagen neogenesis, and reduce the appearance of dimpled skin (cellulite) classified as Nurnberger-Muller Grade I-III.

STRUCTURAL CHASSIS OVERVIEW

The device features a medical-grade ABS injection-molded chassis with integrated electromagnetic shielding. The ergonomic handpiece houses a bipolar RF electrode array (4 independent contact pads) and a vibrational motor assembly operating at 30-50 Hz. A 7-inch capacitive touchscreen display provides real-time impedance monitoring, temperature feedback from four independent thermistors, and treatment logging. The main unit incorporates a silent solid-state relay switching power supply and an active air cooling system with HEPA filtration inlet.

SUPPORTED SKIN TYPES & CONDITIONS

- Fitzpatrick Skin Types: I-VI (all skin tones, no melanin absorption dependency)
- Target Areas: Thighs (lateral and posterior), gluteal region, abdomen, upper arms
- Contraindications: Pregnancy, implanted electronic devices (pacemakers, spinal cord stimulators), active dermatoses, metallic implants within treatment field, hemorrhagic disorders, malignancy
- Eligibility Criteria: BMI 18.5-30 kg/m², localized fat deposits with visible peau d'orange texture

PERFORMANCE SPECIFICATIONS

RF GENERATOR:

- Frequency: 1.0 MHz ± 5% (bipolar mode)

- Output Power: 15W - 120W (programmable in 5W increments)

- Waveform: Continuous or pulsed (duty cycle 10-90%, 10% steps)

- Auto-Impedance Matching: 50-600 Ω adaptive range

MECHANICAL MASSAGE:

- Vibration Amplitude: 0.5 - 2.5 mm

- Vibration Frequency: 30 Hz, 40 Hz, 50 Hz selectable

- Suction Pressure: -50 to -300 mmHg (vacuum-assist option)

- Rotational Mode: Bidirectional (configurable via UI)

THERMAL MONITORING:

- Real-time Epidermal Temperature: 32°C - 42°C ± 0.5°C accuracy

- Automatic Shutdown Threshold: 43°C (safety cut-off)

- Temperature Refresh Rate: 100 ms

Parameter	**Specification**
RF Frequency	1.0 MHz ± 5% (bipolar)
RF Output Power	15W - 120W (programmable, 5W steps)
Vibration Frequency	30 / 40 / 50 Hz (three selectable

	modes)
Suction Pressure	-50 to -300 mmHg (vacuum-assist option)
Epidermal Temperature Control	32°C - 42°C ± 0.5°C, auto-shutdown at 43°C
Display	7-inch capacitive touchscreen, 1024x600 resolution
Dimensions (Main Unit)	420mm (L) x 360mm (W) x 280mm (H)
Weight	11.2 kg (24.7 lbs) net
Power Supply	AC 100-240V, 50/60Hz, 250VA max
Cooling System	Active air + HEPA filtered intake, dual fans
Treatment Timer	Programmable 1-60 minutes, auto-shutdown
Data Export	USB-A port, CSV treatment logs

ACCREDITATIONS MATRIX

CERTIFICATION BODY | STANDARD | STATUS | REGISTRATION NUMBER

Medical CE (EU) | MDR 2017/745 | Class IIa Certified | CE-2024-RFCM-021

FDA (USA) | 21 CFR 878.5580 | Class II 510(k) Cleared | K241890

ISO 13485:2016 | Quality Management | Certified | ISO-13485-RF-4472

IEC 60601-1 | Electrical Safety | Compliant | IEC-60601-1-2023

IEC 60601-1-2 | EMC | Compliant | IEC-60601-1-2-2024

UKCA | UK MDR 2002 | Certified | UKCA-RF-778

TREATMENT SCHEMATIC

Standardized Clinical Protocol (12-session series):

- Pre-Treatment: Skin cleansing (70% isopropyl alcohol), calibrated photography, circumference measurement (trochanter, mid-thigh, 5cm above patella)

- Treatment Settings (initial): 45W continuous RF, 40Hz vibration, -150 mmHg suction, target dermal temperature 40°C

- Application Technique: Slow circular strokes (3-5 cm/s), 15 minutes per treated area (e.g., bilateral thighs = 30 minutes total)

- Endpoint: Sustained erythema (mild), tissue warmth without pain, visible temporary skin tightening

- Post-Treatment: Hydrating gel application, compression garment optional (2 hours), avoidance of NSAIDs for 48 hours

Expected Outcomes Timeline:

- Session 4-6: Subjective improvement in skin texture (patient-reported)

- Session 8-10: Objective reduction in cellulite grade (Clinician Global Aesthetic Improvement Scale 2 or 3)

- Session 12 + 3 months follow-up: Maximum collagen remodeling effect, maintenance every 3-6 months recommended