EMS Sculpting Machine (HI-EMT) - Official Clinical Overview & Technical Datasheet

EXECUTIVE SUMMARY

This document provides a comprehensive clinical and technical overview of the HI-EMT (High-Intensity Electromagnetic Therapy) EMS Sculpting Machine, a non-invasive body contouring system indicated for strengthening, toning, and firming the abdomen, buttocks, thighs, and arms. The device utilizes supra-maximal electromagnetic energy to induce supramaximal muscle contractions not achievable through voluntary exercise, leading to an increase in muscle density and volume, as well as incidental fat metabolism. This whitepaper details the clinical architecture, key specifications, treatment protocols, and regulatory standing of the HI-EMT platform.

CLINICAL ARCHITECTURE & DESIGN

The HI-EMT platform generates a dynamic, high-intensity electromagnetic field (HI-EMF) capable of penetrating soft tissues to a depth of up to 7 cm. The energy delivery induces involuntary, supramaximal concentric and eccentric muscle contractions at a frequency range of 20–50 Hz. This stimulation triggers a supraphysiological metabolic response in the targeted muscle group, leading to profound muscular remodeling (hypertrophy and hyperplasia) and a secondary lipolytic effect on adjacent adipose tissue. The device features a dual-channel application system, allowing simultaneous or sequential treatment of two independent anatomical areas.

KEY INDICATIONS & CAPABILITIES

- PRIMARY: Muscle strengthening and toning (abdominal, gluteal, quadriceps, biceps/triceps).
- SECONDARY: Reduction of abdominal fat layer thickness (adjacent to treated muscles).
- SUPPORTED: Improvement of gluteal projection and firmness. Diastasis recti rehabilitation (mild to moderate).
- CONTRAINDICATIONS: Active implants (pacemaker, defibrillator), metal implants in the field, pregnancy, malignancy, bleeding disorders.

COMPLIANCE & STANDARDS

The HI-EMT system complies with international medical device directives. The device is manufactured under ISO 13485:2016 certified quality management systems. Electrical safety meets IEC 60601-1, IEC 60601-1-2 (EMC), and IEC 60601-2-10 (specific standards for nerve and muscle stimulators).

TECHNICAL SPECIFICATIONS

Parameter	**Specification**
Technology	High-Intensity Electromagnetic Therapy (HI-EMT)
Max Magnetic Field Strength	4.0 Tesla (peak)
Pulse Frequency Range	10 Hz – 50 Hz (programmable)
Treatment Modes	Muscle Toning, Fat Reduction, Strengthening, Flaccidity
Applicator Type	Rigid surface coil (single or dual-channel)
Cooling System	Integrated forced air + skin surface cooling plate
User Interface	10.4 ″ color touchscreen, pre-set

	anatomical protocols
Power Supply	100–240V AC, 50/60 Hz, 800 VA max
Dimensions (Main Unit)	450 mm (W) x 600 mm (D) x 1100 mm (H)
Weight	Approx. 32 kg (main unit)
Safety Classifications	Class II, Type BF applied part
Operating Conditions	10 ° C – 30 ° C, 30% – 75% RH, non-condensing

CLINICAL PROTOCOLS

STANDARD TREATMENT PROTOCOL (ABDOMEN/BUTTOCKS):

- Frequency: 40 Hz for muscle strengthening; 20 Hz for muscle endurance and flaccidity.

- Intensity: Progressively ramped from 30% to 100% based on patient tolerance (max 4.0 Tesla).

- Session Duration: 30 minutes per anatomical area.

- Session Frequency: 2 – 3 sessions per week, minimum 48 hours between sessions.

- Typical Course: 4 sessions over 2 weeks, maintenance every 3–6 months.

OPERATIONAL WORKFLOW:

1. Patient screening and informed consent.
2. Placement of treatment applicator directly on skin over target muscle.
3. Gradual intensity increase until visible muscle contraction observed.
4. Monitor patient comfort; adjust cooling intensity as needed.
5. Post-treatment: No downtime; patient may resume normal activities immediately.