

Professional G5 Vibrating Massager Machine - Clinical Architecture &
Performance Reference Manual

PROFESSIONAL G5 VIBRATING MASSAGER MACHINE

CLINICAL ARCHITECTURE & PERFORMANCE REFERENCE MANUAL

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1.0 EXECUTIVE SUMMARY

The Professional G5 Vibrating Massager Machine represents a paradigm shift in mechano-therapeutic intervention for medical aesthetics, sports rehabilitation, and clinical physiotherapy. Engineered as a high-torque, low-frequency percussive device, the G5 system delivers targeted mechanical vibration to penetrate deep myofascial layers, alleviate chronic muscle tension, enhance lymphatic drainage, and reduce post-procedural edema. Unlike consumer-grade massagers, the G5 platform incorporates a balanced drive motor, a multi-zone thermal management chassis, and a set of medically graded applicators, enabling sustained operation in high-volume clinical environments. This whitepaper provides a comprehensive technical overview, clinical performance specifications, and regulatory compliance data for the Professional G5 Vibrating Massager Machine.



2.0 CLINICAL ARCHITECTURE & DESIGN

The G5 system is constructed around a high-efficiency electromagnetic motor housed within an acoustically dampened, medical-grade polycarbonate shell. The internal architecture isolates vibration transmission to the handpiece via a flexible drive shaft, effectively decoupling motor resonance from the operator's grip to reduce clinician fatigue. A front-panel membrane keypad interfaces with a PID-controller to maintain consistent amplitude (0–16 mm peak-to-peak) and frequency (20 – 60 Hz) regardless of tissue resistance. The chassis incorporates passive and active cooling vents, allowing for duty cycles exceeding 60 minutes without thermal shutdown.

3.0 KEY INDICATIONS & CLINICAL CAPABILITIES

- POST-LIPOSUCTION FIBROSIS REDUCTION: Breaks down fibrous adhesions and reduces nodularity.
- LYMPHATIC DRAINAGE FACILITATION: Mechanical percussion stimulates lymph flow, accelerating post-surgical recovery.
- CHRONIC MYOFASCIAL PAIN RELEASE: Deep vibration penetrates to trigger points, reducing hypertonicity.
- CELLULITE TEMPORARY APPEARANCE IMPROVEMENT: Combined with topical agents, the G5 enhances penetration and tissue mobilization.
- PRE- AND POST-EXERCISE MUSCLE PREPARATION: Increases local blood flow and reduces delayed onset muscle soreness (DOMS).

4.0 COMPLIANCE & REGULATORY STANDARDS

The Professional G5 Vibrating Massager Machine complies with the following international medical device standards:

- IEC 60601-1 (Medical electrical equipment – General requirements)
- IEC 60601-1-2 (Electromagnetic compatibility)
- ISO 13485 (Quality management for medical devices)
- CE Mark (Class I Medical Device – EU MDR 2017/745)
- FDA 510(k) Exempt – General Wellness: Low-risk percussive therapy device
- RoHS 3 compliant (Restriction of Hazardous Substances)

5.0 TECHNICAL SPECIFICATIONS

Parameter	Specification
Motor Type	High-torque electromagnetic, brushless DC
Frequency Range	20 Hz – 60 Hz \pm 5% (1200 – 3600 rpm)
Amplitude (Stroke Length)	4 mm, 8 mm, 12 mm, 16 mm (4 selectable levels)
Max Centrifugal Force	45 kgf (approx. 440 N) at 60 Hz / 16 mm amplitude
Applicator Set	Flat rubber dome (soft), small bullet tip (hard), wide convex sponge pad, U-shaped myofascial hook
Dimensions (Base Unit)	280 mm (L) x 180 mm (W) x 150 mm (H)
Weight (Main Unit)	4.2 kg (9.3 lbs)
Handpiece Weight	0.9 kg (with integrated anti-vibration grip)
Duty Cycle	60 minutes ON / 10 minutes OFF at max load

Acoustic Noise	< 55 dBA at 1 meter (60 Hz operation)
Power Supply	100–240 V AC, 50/60 Hz, 150 W max
Control Interface	Digital LED panel with membrane keys + foot pedal port
Safety Timers	Auto-off after 20 minutes idle; max session 30 min programmable
Certifications	CE (Class I), ISO 13485, RoHS, IEC 60601-1, FDA General Wellness

6.0 CLINICAL PROTOCOLS (EVIDENCE-BASED WORKFLOWS)

PROTOCOL A – POST-LIPOSUCTION FIBROSIS MANAGEMENT

- Mode: Continuous percussive
- Frequency: 30 Hz (initial weeks 1-4) → 50 Hz (weeks 5-8)
- Applicator: Flat rubber dome (15 cm² contact)
- Duration: 10–15 minutes per treatment zone
- Frequency: 2x per week for 8 weeks

PROTOCOL B – MYOFASCIAL TRIGGER POINT RELEASE

- Mode: Pulsed rhythm (2 seconds ON, 1 second OFF)
- Frequency: 40–60 Hz (increase based on patient tolerance)

- Applicator: Small bullet tip (point-specific pressure)
- Duration: 60 seconds per trigger point, repeat 3x
- Frequency: As needed for acute flare-ups

PROTOCOL C – POST-EXERCISE LYMPHATIC CLEARANCE

- Mode: Low-amplitude continuous (4 mm amplitude)
- Frequency: 20–25 Hz
- Applicator: Wide convex sponge pad (with or without gel)
- Duration: 5 minutes per major muscle group (quads, glutes, hamstrings)
- Direction: Centripetal (distal to proximal)

SAFETY NOTES: Avoid direct application over acute fractures, thrombophlebitis, active malignancies, pacemaker implantation sites, or pregnant abdomens.

Maximum single-session treatment time: 30 minutes. Allow 10-minute cooldown between consecutive patient treatments.

