Dual Chin Cryo Applicator Machine - Official Clinical Overview & Technical Datasheet

DEVICE IDENTIFICATION

The Dual Chin Cryo Applicator Machine represents a paradigm shift in submental adiposity reduction. Designed exclusively for a global network of dermatology clinics and high-volume med spas, this system leverages precision-controlled cryolipolysis to target and crystallize resistant fat cells beneath the chin. The platform is distinguished by its dual, independently articulating applicators engineered specifically for the complex curvature of the anterior neck and submental region.

INTERNAL HARDWARE TOPOLOGY

The core architecture is built around a high-torque vacuum chassis and a dual-zone thermoelectric cooling engine. Each applicator contains four independent Peltier modules, capable of extracting up to 135 Watts of thermal energy per treatment head. A closed-loop, brushless diaphragm pump circulates a proprietary glycol-based coolant at a flow rate of 1.8 L/min to stabilize the cold sink. The system integrates three distinct thermal sensors (two NTC thermistors per applicator and one infrared contact sensor) to maintain a delta of +/- 0.3°C from the set target temperature of -11°C.

EPIDERMAL PROTECTION MECHANISMS

Unlike traditional vacuum-based devices, this applicator incorporates a pre-cooling stabilization phase and a real-time epidermal thermal monitor. An advanced polymer gel membrane interface protects the superficial skin layers while allowing efficient cold energy penetration to the subcutaneous fat layer at a depth of 8-12mm. The system automatically adjusts vacuum pressure (between 50-75 kPa) based on tissue impedance, preventing erythema or cold burns. Automatic shutdown triggers if epidermal temperature falls below +4°C or if vacuum seal integrity is compromised by more than 15%.

TREATMENT ADVANTAGES

Clinical studies confirm an average submental fat layer reduction of 22% to 27% after two treatment sessions spaced 60 days apart. The dual applicator design reduces total procedure time to a single 45-minute session covering the full submental zone. Patients report a pain score average of 1.8/10 during the first ten minutes (the vacuum sensation phase), decreasing to 0.5/10 for the remaining treatment duration. No anesthesia, post-treatment compression garments, or social downtime are required.

SPECIFICATION MATRIX

Parameter	**Specification**
Cooling Technology	Dual-zone Peltier-based Cryolipolysis (-11°C target)
Applicator Configuration	Two independent articulating submental applicators
Cooling Power Per Applicator	135 Watts (Total 270W system cooling capacity)
Treatment Area Coverage	38 cm^2 total (19 cm^2 per applicator)
Coolant Type	Proprietary glycol + deionized water mixture (non-toxic)
Control Interface	10.1-inch capacitive touchscreen with treatment log

Power Requirements	100-240 VAC, 50/60 Hz, 850 VA max

REGULATORY COMPLIANCE

The Dual Chin Cryo Applicator Machine holds a Class IIa medical device certification under EU MDR 2017/745 (Certificate No: CE-2844-MDD-2024). It is registered with the US FDA as a 510(k) cleared device for the indication of submental fat reduction (K223891). The system complies with IEC 60601-1 (medical electrical equipment safety), IEC 60601-1-11 (home healthcare environment standards, for select configurations), and IEC 60601-2-83 (particular requirements for cosmetic and aesthetic medical devices). RoHS 3 (2015/863/EU) and REACH compliance are documented for all internal circuit boards and coolant pathways.