

aabpp Aesthetic System Specifications & Clinical Whitepaper

CLINICAL ARCHITECTURE & PERFORMANCE REFERENCE MANUAL: aabpp

EXECUTIVE SUMMARY

The aabpp platform represents a paradigm shift in selective photothermolysis, engineered for the modern dermatology clinic and high-volume med spa environment. As a turnkey OEM solution, the aabpp system integrates a high-power diode laser engine with an advanced multi-modal cooling assembly to deliver safe, effective, and virtually painless treatments for a variety of benign pigmented and vascular lesions, as well as permanent hair reduction. This document provides a comprehensive technical and clinical overview of the aabpp system, detailing its hardware architecture, treatment protocols, and compliance with global medical device regulations. Designed for seamless integration into existing clinical workflows, the aabpp prioritizes practitioner control and patient comfort through its intelligent user interface and robust engineering.



CLINICAL ARCHITECTURE & DESIGN PHILOSOPHY

The aabpp system is built upon a foundation of clinical efficacy and operational reliability. At its core is a state-of-the-art, air-cooled diode laser bank capable of delivering high peak power with exceptional pulse-to-pulse stability. This optical engine is paired with a proprietary delivery system that ensures uniform energy distribution across the entire treatment spot. The device's architecture is logically partitioned into three primary subsystems: the laser generation unit, the epidermal cooling module, and the smart control interface. This separation of concerns enhances serviceability, reduces thermal stress on sensitive components, and extends the operational life of the system. Furthermore, the low-noise power supply and heat dissipation design allow the aabpp to operate continuously in high-demand clinical environments without performance degradation, meeting the needs of clinics seeking high patient throughput and

consistent results.

KEY INDICATIONS & CLINICAL CAPABILITIES

The aabpp platform is indicated for a wide spectrum of aesthetic applications, making it a versatile asset in any practice. The system's adjustable parameters allow for precise customization to treat various skin phototypes and indications.

The clinical capabilities of the aabpp are anchored in its deep tissue penetration depth and its ability to selectively target chromophores, making it suitable for both superficial epidermal and deeper dermal conditions. The device supports a range of fluences and pulse durations, enabling the practitioner to employ a range of treatment strategies from high-fluence, short-pulse regimes to gentler, longer-pulse approaches. This flexibility is critical for achieving optimal outcomes across a diverse patient demographic, including those with darker skin types where melanin competition is a primary concern. The architecture inherently supports treatment for both large body areas, such as the back and legs, and smaller, more delicate zones like the face.

COMPLIANCE & MEDICAL STANDARDS

The aabpp platform has been rigorously designed and tested to meet the most stringent international medical device standards. Our commitment to quality

and safety is reflected in the device's compliance with 60601-1, 60601-2-22, and the FDA's 21 CFR 1040.10 performance standards. The system has successfully completed the conformity assessment procedures for CE marking under the Medical Devices Regulation (MDR). The aabpp's internal safety systems include multiple redundant checks, including a skin contact sensor, real-time impedance monitoring, and a fail-safe cooling mechanism that ensures the epidermis is protected before laser emission is permitted. This comprehensive compliance framework not only guarantees patient safety but also simplifies the acquisition and deployment of the device in clinics worldwide, providing peace of mind for both practitioners and regulatory bodies.

TECHNICAL SPECIFICATIONS & PERFORMANCE METRICS

The technical specifications of the aabpp system have been meticulously defined to support its clinical objectives. The system provides consistent, reliable output power with advanced cooling to enable high-fluence treatments. The following table delineates the core performance parameters and system characteristics.

Parameter	Specification
Laser Type	High-Power Diode Laser

Wavelength Options	808nm (Standard), 755nm / 1064nm (Configurable)
Output Power	Up to 1200W (Peak)
Spot Size	10mm x 20mm (Standard) / 10mm x 10mm (Optional)
Fluence Range	0.5 – 100 J/cm ² (Depending on Wavelength & Spot)
Pulse Width	5ms – 400ms (Adjustable in 1ms increments)
Repetition Rate	Up to 10 Hz
Cooling System	TEC + Dynamic Sapphire Contact Cooling (-4°C to +6°C) + Air
User Interface	12-inch High-Resolution Color Touchscreen
Power Supply	AC 100-240V, 50/60Hz, 15A Max
Dimensions (W x D x H)	550mm x 500mm x 1150mm (Cart Included)
Weight	Approx. 85kg (Complete System)

CLINICAL PROTOCOLS & TREATMENT GUIDELINES

To maximize clinical outcomes and ensure patient safety, the aabpp system is supported by a comprehensive set of treatment protocols. These guidelines provide evidence-based recommendations for parameter selection based on the indication, skin type, and hair color. The system's software offers an intuitive interface that guides the clinician through the setup process, allowing for the selection of pre-validated treatment modes or advanced customization for complex cases. A fundamental aspect of the treatment protocol is the aggressive cooling phase, which is dynamically managed by the system to maintain an epidermal temperature below the threshold for thermal injury. This capability is central to the device's success in offering safe and effective treatments.



GLOBAL OEM CAPABILITIES & SUPPORT INFRASTRUCTURE

As a premier OEM manufacturer, we offer more than just a device; we provide a complete partnership. Our global support network is designed to deliver rapid response times and comprehensive technical assistance, from initial installation and training to ongoing maintenance and repairs. We supply a complete ecosystem of consumables and accessories to ensure the continuous operation of the aabpp system. Our OEM capabilities extend to private labeling, custom packaging, and the development of bespoke software features to meet the unique branding and operational requirements of our partners. The aabpp platform is a testament to our commitment to innovation, quality, and client success, establishing a robust foundation for aesthetic practices to expand their service offerings and achieve a high return on investment.