

MEDICA: TRIANGEL's Proctology Diode Laser Machine With FDA and CE Clearance for Global Surgical Clinics

BAODING, HEBEI, CHINA, September 21, 2026 /EINPresswire.com/ -- At MEDICA in Duesseldorf, the premier global medical trade fair, specialized laser manufacturer TRIANGEL presented its advanced V6 proctology surgical workstation. Ambulatory surgery centers and hospital colorectal departments increasingly adopt minimally invasive energy modalities that preserve sphincter integrity and accelerate patient recovery. Traditional surgical hemorrhoidectomy often involves painful tissue excision, extended healing intervals, and potential disruption to natural fecal continence. Founded in 2013, TRIANGEL operates under certified ISO 13485 standards, manufacturing advanced surgical consoles holding FDA clearance and European Medical CE certification. The [FDA and CE cleared proctology diode laser machine](#) delivers targeted endoluminal photocoagulation, sphincter preservation, and mucosal integrity across outpatient surgical suites. This specialized workstation enables colorectal surgeons to perform precise laser hemorrhoidoplasty and fistula closure within streamlined operative schedules. Healthcare facilities expand their surgical case volumes while maintaining predictable clinical outcomes and high patient



satisfaction.

Sphincter Preservation and Mucosal Integrity in Laser Hemorrhoidoplasty

Laser Hemorrhoidoplasty (LHP) represents an established clinical evolution in the surgical management of symptomatic Grade II, III, and IV hemorrhoidal disease. The TRIANGEL V6 platform utilizes original American QPC semiconductor diode arrays delivering calibrated 1470 nm and 980 nm laser emissions. Guided by sterile 400 to 600 micrometer silica fibers, the surgeon introduces optical energy directly into the submucosal hemorrhoidal cushion.



The 1470 nm wavelength selectively interacts with intracellular and interstitial water inside hyperplastic vascular cushions, initiating controlled protein denaturation at 55 degrees Celsius. Simultaneously, the 980 nm emission interacts with intravascular oxyhemoglobin to facilitate clean microvascular hemostasis along the treatment tract. This endoluminal energy triggers collagen remodeling and adheres the mucosa firmly back to underlying muscular structures—eliminating nodule prolapse without requiring excisional cutting, rubber band ligation, mechanical staples, or foreign suture materials. Because optical energy is delivered entirely beneath the anoderm, the sensitive anal mucosa and internal anal sphincter muscles remain completely preserved.

Controlled thermal energy induces immediate shrinkage of the hemorrhoidal node, followed by stable connective tissue fibrosis over subsequent weeks. Continuous wave and pulsed delivery modes allow practitioners to adjust power parameters with millimeter-level precision across diverse anatomical vectors. Patients experience minimal post-operative discomfort, requiring little analgesic medication and resuming normal daily activities within one to two days. Long-term clinical follow-up confirms high rates of symptom resolution without anal stenosis or incontinence complications.

Specialized Optical Accessories for FiLaC and SiLaC Procedures

Beyond hemorrhoidal ablation, the V6 workstation provides versatile clinical utility across complex anorectal and pilonidal conditions. For anal fistula treatment, the system supports Fistula-tract Laser Closure (FiLaC) using specialized 360-degree radial-emitting optical fibers. The surgeon inserts the radial fiber along the fistula tract under visual guidance from an integrated 650 nm red aiming beam.

As the clinician slowly withdraws the fiber, radial energy deposits a uniform 360-degree ring of

thermal energy along the tract walls. This controlled heating de-epithelializes the infected epithelial lining and initiates circumferential collagen shrinkage without requiring sphincter division. The primary internal opening is closed with an advancement flap or mucosal suture, preserving complete fecal continence.

Similarly, for Sinus Laser Closure (SiLaC) of pilonidal sinus tracts, the radial fiber enables thorough endoluminal obliteration through micro-incisions. By avoiding wide surgical excisions, SiLaC preserves adjacent tissue architecture and avoids painful open wound packing regimens. Compared to high-scattering CO2 or deep-penetrating Nd:YAG platforms, the V6 delivers a shallow, highly confined ablation zone that operates without intraoperative smoke or sparks, maximizing operating field visibility. The TRIANGEL sterile disposable fiber range includes conical bare tips and radial configurations, meeting diverse anatomical requirements with high procedural consistency. Standard SMA905 optical connectors ensure instant coupling and consistent laser transmission during delicate surgical maneuvers.

Dual Regulatory Assurance: EU Medical CE and United States FDA Clearance

International healthcare procurement directors and surgical department heads require documented regulatory credentials when selecting cross-border medical hardware. TRIANGEL enforces a rigorous ISO 13485:2016 quality management system governing optoelectronic assembly, cleanroom manufacturing, and optical power testing. A dedicated quality assurance department of 12 specialists conducts multi-stage inspections to maintain batch stability across all production lines.

The V6 proctology platform holds United States FDA 510(k) clearance, confirming adherence to stringent clinical performance and safety benchmarks. In Europe, the platform achieved Medical CE certification under the Medical Device Regulation (MDR), audited by the British Standards Institution (BSI 2797).

In addition, valid product registrations with UKCA and Brazilian ANVISA enable global medical distributors to expand regional market access smoothly. These dual regulatory endorsements confirm that TRIANGEL surgical systems satisfy the highest international standards of clinical reliability. Distributors and hospitals acquire verified medical hardware that integrates into accredited operating theater environments without delay. Documented compliance provides healthcare facilities with regulatory peace of mind across diverse geographical jurisdictions.

Integrated Turnkey Surgical Ecosystem and Ambulatory Economics

For outpatient day-surgery suites and specialized proctology clinics, the V6 workstation delivers high economic and operational efficiency. The compact solid-state console occupies minimal floor space and facilitates rapid room turnover between consecutive surgical cases. Clinicians complete laser hemorrhoidoplasty and fistula closure within 15 to 20 minutes under local perianal block or light intravenous sedation.

Sourcing directly from manufacturer TRIANGEL removes intermediate agency markups, improving capital allocation efficiency for private surgical centers. The platform supports standardized sterile optical fibers, specialized proctology anoscopes, and cannula introducers, creating a complete turnkey surgical solution.

TRIANGEL maintains structured component inventories, providing worldwide door-to-door delivery within two weeks to support uninterrupted surgical schedules. Reliable access to sterile disposables and dedicated engineering support ensures smooth clinic expansion across international territories. Hospitals optimize theater capacity while delivering patient-centric outpatient surgical care.

MEDICA Technical Exchanges, Live Surgical Protocols, and Global Partnerships

During MEDICA, TRIANGEL medical engineering specialists hosted technical briefings and interactive console demonstrations for attending general surgeons and distributors. Visitors examined optical fiber beam dispersion, tested intuitive touchscreen software workflows, and reviewed energy calibration protocols across clinical indications. Clinical presentations highlighted real-world surgical outcomes derived from over 15,000 successful operations performed globally.

These clinical results are supported by active research collaborations across 15 partner hospitals and four European clinical research centers. With over 12,000 installations across 80 plus countries and more than 300 physician endorsements, TRIANGEL demonstrates proven surgical manufacturing excellence. TRIANGEL actively invites international medical equipment distributors and hospital networks to explore commercial distribution partnerships.

Direct factory cooperation provides distributors with private-label branding options, Arabic and European language interface customizations, and dedicated technical training support. Practitioners access hands-on training resources developed across TRIANGEL clinical education facilities to establish standardized surgical proficiencies.

Technical Consultation and Factory Documentation

Colorectal surgeons, surgical department heads, and medical device distributors attending MEDICA are invited to connect with the TRIANGEL delegation. Access technical specifications, clinical protocol documentation, and direct factory procurement quotations by visiting the official TRIANGEL medical engineering portal: <https://www.triangelmed.com/>.

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