

AcuPulse™ DUO Surgical CO₂ Laser System

The versatility to choose the right
treatment for your patient





SurgiTouch™ Scanner: with articulated arm, designed for precision

The Digital AcuBlade™ Micromanipulator with SurgiTouch Scanner delivers laser energy inside a user-defined geometric shape.¹⁰ The rapid motion of the scanner takes the energy delivery and the entire operation to high precision levels designed to:

- ▶ Enable control over incision length, shape, ablation area and treatment depth.
- ▶ Minimise thermal spread with preservation of adjacent tissue.^{1-3,5-6*,7-8}
- ▶ Allow for customisation to patient anatomy.

FiberLase™ CO₂ fibre: enable access and energy delivery

The flexible CO₂ laser fibre is designed to facilitate access to difficult-to-reach areas.^{1,9}

This hand-held fibre is designed to be intuitive, which may facilitate adoption in the surgical sphere.

- ▶ Renewable tip is cleavable during use, for consecutive focused laser transmission.
- ▶ Adjustable aiming beam enables precise positioning to help target desired tissue.
- ▶ 2 m long fibre designed for extended flexibility and manoeuvring.
- ▶ Compatible with a variety of flexible endoscopes and robotic tools.
- ▶ Available with designated surgical tools.



The AcuPulse™ DUO CO₂ Laser System is a unique combination of fibre and free-beam energy delivery on a single device

With the ability to utilise two modalities on the same laser console, there is no need to choose. The precision of the Digital AcuBlade™ Micromanipulator alongside the flexibility of the fibre allows you to address surgical challenges and to treat anatomy with delicacy, resulting in virtually char-free margins and minimal thermal necrosis.^{1,3-4,5-6*,7}

AcuPulse™ DUO Laser System unique features:

- ▶ Seamless alternation between the free-beam and fibre delivery modes.
- ▶ Three power and time exposure modes that enable customised energy delivery for controlled laser-tissue interaction:
 - Continuous Wave – steady, continuous beam of energy, when coagulation is required
 - Pulser – constant frequency with variable pulse length, designed to yield desired average power
 - SuperPulse – continuous series of short-duration, high-peak power pulses designed for char-free outcomes
- ▶ Advanced, electronically controlled air management system.
- ▶ Embedded procedure and assembly videos in the user interface.
- ▶ 99 memory settings can be integrated and saved on the system for various users.

The AcuPulse DUO Laser System is intended for use in surgical applications requiring the ablation, excision, incision and coagulation of soft tissue. A wide range of indications for use offers a variety of options within the healthcare facility. A partial list of indications include:

Otolaryngology

(ENT)



- Benign and malignant lesions: oral, nasal, pharynx, larynx, trachea and ear
- Papillomatosis
- Tonsillectomy
- Bronchoscopy
- Subglottic and tracheal stenosis
- Stapedotomy
- Cholesteatoma
- Myringotomy

Gynaecology

(including laparoscopy and robotic assisted surgery)



- Endometriosis
- Excision/lysis of adhesions
- Uterine myomas and fibroids
- Ovarian fibromas and follicle cysts
- Uterosacral ligament ablation
- Hysterectomy
- Cone biopsy of the cervix

Risk information

CO₂ lasers (10.6 μm wavelength) are intended solely for use by trained doctors. Incorrect treatment settings or misuse of the technology can present risk of serious injury to patient and operating personnel. The use of CO₂ laser is contraindicated where a clinical procedure is limited by anaesthesia requirements, site access or other general operative considerations. Risks may include excessive thermal injury and infection. Read and understand the CO₂ systems and accessories operator manuals for a complete list of intended use, contraindications and risks.



AcuPulse™ DUO Surgical CO₂ Laser System technical specifications

AcuPulse DUO models	30/40 30ST/40ST (ST=with SurgiTouch system); specific configuration kit required	Beam delivery	Lightweight, carbon fibre, 7-joint, spring-balanced arm, 144 cm (56.7") reach, 360 deg. rotation, flexible fibre using the Lumenis family of CO ₂ fibres
Laser type	CO ₂ laser, sealed-off, DC excited	Laser emission indicators	<ul style="list-style-type: none"> • LED illuminated indication active port • Aiming beam only emits from active port • Yellow lamp: standby/ready/lasing indicator • Audible tone
Wavelength	10.6 micron, infra-red	Memory settings	Min. 100+ custom memory setting capacity
Mode structure	TEM00	Cooling	Self-contained, closed cycle
Laser operating modes	Continuous Wave (CW), Pulser, SuperPulse (SP)	Air management	Internal (low flow) or external (high flow) with bacteriologic filter; electronically controlled
CW power	1-30 W / 1-40 W	Electrical	100-240 VAC, 9A (MAX), 50/60 Hz single phase
SuperPulse average power	0.5-10 W / 0.5-15 W (timed: 0.2-10 W / 0.2-15 W)	Dimensions	40 cm W x 40 cm D x 135 cm H; (15.8" W x 15.8" D x 53.6" H)
Pulser average power	1-25 W / 1-35 W	Weight	53 kg (117 lbs)
Controls	<ul style="list-style-type: none"> • Multi-colour touch panel – high resolution • Footswitch, up to 10 m • Screen dimensions: 10.4" Electronically controlled switching between fibre and free beam		
Aiming beam	5 mW red diode laser, 635 nm, adjustable intensity, blink on/off, diode off while lasing option.		

Tissue exposure modes [model: AcuPulse DUO 40 (30)]

	Power (W)	On time (sec)	Off time (sec)	Repeated (counts)
Continuous:	1.0-4.5 5.0-40 (30)	N/A	N/A	N/A
Single pulse	1.0-4.5 5.0-40 (30)	0.05-1.00 0.01-1.00	N/A	N/A
Repeat pulse	1.0-4.5 5.0-40 (30)	0.05-1.00 0.01-1.00	0.01-1.00 0.01-1.00	2-10 2-10

*Bench test results may not necessarily be indicative of clinical performance.

1. Tirelli G, Boscolo Nata F, Bussani R, et al. How we improve the transoral resection for oral and oropharyngeal cancer: the CO₂ waveguide laser. *Eur Arch Otorhinolaryngol.* 2019 Aug;276(8):2301-10.
2. Osuch-Wójcikiewicz E, Rzepakowska A, Sobol M, et al. Oncological outcomes of CO₂ laser cordectomies for glottic squamous cell carcinoma with respect to anterior commissure involvement and margin status. *Lasers Surg Med.* 2019 Dec;51(10):874-81.
3. Shurgalin M, Anastassiou C. A new modality for minimally invasive CO₂ laser surgery: Flexible hollow-core photonic bandgap fibers. *Biomed Instrum Technol.* 2008 Jul-Aug;42(4):318-25.
4. Luna-Ortiz K, Hidalgo-Bahena SC, Muñoz-Gutiérrez TL, et al. Tumors of the oral cavity: CO₂ laser management. *Med Oral Patol Oral Cir Bucal.* 2019 Jan 1;24(1):e84-e88.
5. Hanby DF, Gremillion G, Zieske AW, et al. Harmonic scalpel versus flexible CO₂ laser for tongue resection: a histopathological analysis of thermal damage in human cadavers. *World J Surg Oncol.* 2011 Aug 1;9:83.
6. Liboon J, Funkhouser W, Terris DJ. A comparison of mucosal incisions made by scalpel, CO₂ laser, electrocautery, and constant-voltage electrocautery. *Otolaryngol Head Neck Surg.* 1997 Mar;116(3):379-85.
7. Remacle M, Matar N, Delos M, et al. Is frozen section reliable in transoral CO₂ laser-assisted cordectomies? *Eur Arch Otorhinolaryngol.* 2010 Mar;267(3):397-400.
8. Hendriksma M, Heijnen BJ, Sjögren EV. Oncologic and functional outcomes of patients treated with transoral CO₂ laser microsurgery or radiotherapy for T2 glottic carcinoma: a systematic review of the literature. *Curr Opin Otolaryngol Head Neck Surg.* 2018 Apr;26(2):84-93.
9. Remacle M, Ricci-Maccarini A, Matar N, et al. Reliability and efficacy of a new CO₂ laser hollow fiber: a prospective study of 39 patients. *Eur Arch Otorhinolaryngol.* 2012 Mar;269(3):917-21.
10. Matar N, Amoussa K, Verduyck I, et al. CO₂ laser-assisted microsurgery for intracordal cysts: technique and results of 49 patients. *Eur Arch Otorhinolaryngol.* 2010 Dec;267(12):1905-9.

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