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Laser

Martin Nd:YAG-Laser MY 60

and Accessories

New Dimensions in Laser Medicine

www.martin-med.com

Martin Nd:YAG-Laser MY 60

New Dimensions in Laser Medicine

The Martin MY 60 is a compact, microprocessor-controlled, continuous-wave solid-state laser. Its excellent, thought-out design provides for highest levels of safety and operating efficiency.

- ✿ The laser head and supply unit have been separated for the first time.
- ✿ Advanced solid-state laser technology with solid quartz cavity.
- ✿ Top irradiation quality - in addition to 600- μm and 400- μm fibers, super-thin 260- μm fibers are available for superior power density across the entire power range.
- ✿ Cross-system use due to SMA-905 fiber connection.
- ✿ Multiple protection of SMA fiber connector and the focusing lenses by heat sensor, integrated protective glass and protective cover.
- ✿ Excellent power stability over the whole power range thanks to **online power control**.
- ✿ Integration of optomechanical components into a rugged, torsionally rigid, hermetically sealed laser block ensures:
 - that no user readjustments are necessary
 - permanent availability of the laser.
- ✿ A highly sophisticated design shows in utmost user-friendliness and easiness of use: just a few buttons give the user full control over a powerful and intelligent device.
- ✿ Special function display (total energy applied, stop watch and pulse counter).
- ✿ High level of operating and functional safety with microprocessor-controlled multiple monitoring of all operating functions.
- ✿ The electronically controlled coupling-in system guarantees troublefree laser transmission through the fiber.
- ✿ Minimum space requirements (W x D = 405 x 380 mm).



Martin MY 60 stand-alone version

Medical Application Areas

The excellent beam quality provided by the Martin MY 60 laser allows transmission through thin 260 µm fibers. This means that lasers application through microendoscopes and guidable catheters is possible at a minimum working channel diameter of 500 µm. The use of 260 µm fibers results in very high power densities even to low power levels. This allows high-precision tissue preparation while thermal damage is kept at a minimum - a fact that provides new application opportunities, e.g. in the intraluminal or microsurgical fields. The guaranteed power stability - lower power range included - is an essential prerequisite for a controlled application of laser energy. This is of particular importance, for example, in treating interstitial tumours (prostate, liver, brain, etc.).

The following list gives some examples of application fields where the Martin MY 60 lasers can be used for soft tissue coagulation, vaporization or cutting, either on an endoscopic or open-surgery basis using a contact or non-contact technique.

Respiratory tract

Nasal polyps
Tonsils
Tracheal and bronchial stenoses
Tracheal and bronchial fistulas
Sinuses
Fistulae
Decortication
Epistaxis
Nasal turbinates

Abdominal cavity/laparoscopy

Cholecystectomy
Appendectomy
Adhesiolysis
Abscess cavity
Loop abscesses
Retroperitoneal lymphadenectomy
Lymph node resection
Vagotomy

Oncology

Recanalization
Tumour resection
Interstitial tumour therapy
with special accessories:
✿ LITT
✿ kidney
✿ liver
✿ brain

Oral cavity

Tumours of the tongue
Partial Velumremoval

Urogenital tract

Condylomata acuminata
Stenosis of urethra
Bladder tumours
Prostate adenoma
Penile carcinoma
Tumour-nephrectomy
Urethral strictures

Dermal and integumentary systems

Verrucae
Benign tumours of the skin
Cutaneous/subcutaneous secondaries
of malignancies
Inoperable basal cell carcinoma,
Recurrences

Thoracic wall and cavity

Decortication
Recurrent pneumothorax
Resection of lung metastases
Tumours of thoracic wall
Wedge resections

Gynaecology

Endometriosis
Benign endometrial polyp
Submucous fibroids
Uterine septum
Polycystic ovary disease (PCOD)
Tubes
Refertilisation
Hysterectomy

Vascular system

Vascular malformations
Haemangioma
Varices
Teleangiectasis

Orthopaedics

Percutaneous disc decompression
by laser

Neurosurgery

Tissue preparation
Laser Induced Thermotherapy (LITT):
✿ brain tumours

Gastrointestinal tract

Oesophageal stenoses and strictures
Oesophagotracheal fistulae
Haemorrhage
Polyps

Proctology

Anal stenoses
Marisques
Fistulae
Haemorrhoids
Anal fissures
Condylomata acuminata
Polyps
Colorectal carcinoma

Wide range of individual setup thanks to the separation of la

Martin MY 60 Stand-alone-Version

Due to its compact design, the stand-alone version requires only minimum space and is easily transportable, especially so since it comes equipped with large, smooth-running castors.

Accessories are easily accessible in the roomy, integrated drawer element.

The apparatus has a removable flyer unit to provide a safe place for the laser applicators when not in use. The flyer can be autoclaved at 134° C.



and configuration opportunities

separate installation of laser head from the supply unit



Martin MY 60 – Separate installation of laser head and supply unit

The compact laser head can be used very efficiently when installed on an overhead support. This ensures constant availability in the course of an operation with minimum space requirements.

By this separation of the laser head from the supply unit, even the strictest hygiene requirements are fulfilled.

The noise-free operation of the laser unit will be highly appreciated by surgical teams.

Less cleaning needed in operation-rooms.



Martin Focusing Handpiece

Description of Martin Focusing Handpiece for Nd:YAG Laser

For Nd:YAG laser light application, we have developed a high-performance optical system based on high-quality materials. When used in combination with a Martin Nd:YAG laser unit and a 260- μm fiber, unsurpassed power densities can be achieved in the focal point. Moreover, the device provides excellent cutting, vaporization and coagulation functions on a non-contact basis.

Thanks to the fact that gas flow has been optimized both on the handpiece and the fiber, a so far unknown gas irrigation efficiency has been achieved. The gas flow function provides a free beam path, making sure that no energy-absorbing particles (vapors or tissue debris) can enter the space between the optical system and the tissue. This reliably prevents the front lens from getting soiled.

The two focal lengths available ($f = 30 \text{ mm}$ and $f = 50 \text{ mm}$) in combination with the various front sleeves allow optimum adaptation of the system to specific surgical requirements. Thanks to the modular design of the handpiece, it is easy to just exchange the front lens if a different focal length is required. Likewise, a change in the working distance is easily achieved by a simple exchange of the front sleeve.

The well thought-out service concept - particularly the quick-action connector for connecting fiber to the handpiece, and the easily exchangeable front lens - facilitates using the instrument in everyday clinical work and makes it readily available, especially so since the user can perform all the above changes himself.



Fields of application:

The Martin Focusing Handpiece is suitable for dermatological and open-surgery applications in many fields - for example

- oral cavity
- abdominal and thoracic cavity
- external genitals
- tumour surgery
- dermal surgery

Application examples:

- Treatment of verrucae, condylomata acuminata, leukoplakia
- Coagulation of vascular malformations and haemangiomas
- Removal of tongue tumours
- Treatment of endometriosis
- Cutting and coagulation of liver, spleen, kidney, pancreatic and lung parenchyma and cerebral tumours

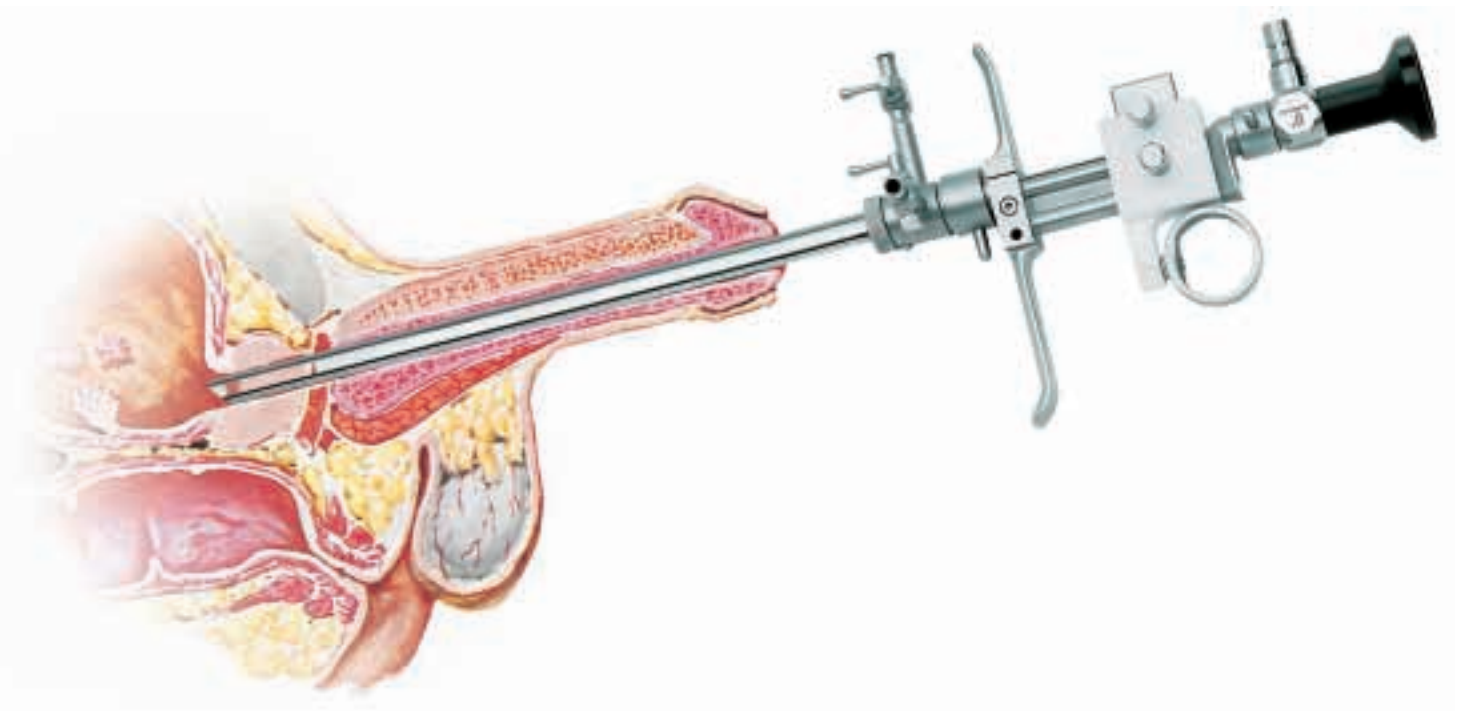
Laser Cystoscope according to Aeikens

The Laser Cystoscope according to Aeikens is used for tissue coagulation and cutting in transurethral urological surgery, particularly in treating benign prostatic hyper-plasia, bladder and urethral tumours, and for removing urethral strictures.

As the Cystoscope is similar in design to a resectoscope, the surgeon will soon get familiar with using and handling the instrument.

In surgical use, the Laser Cystoscope allows utmost precision in controlling and positioning a bare fiber (400 μm), with the further advantages that such a fiber is very inexpensive compared to a side-fiber and easily be reprepared.

This instrument can be easily disassembled into its component parts, which facilitates thorough cleaning and proper preparation for further use. Top-quality materials and state-of-the-art manufacturing methods also guarantee utmost reliability in everyday surgical use.



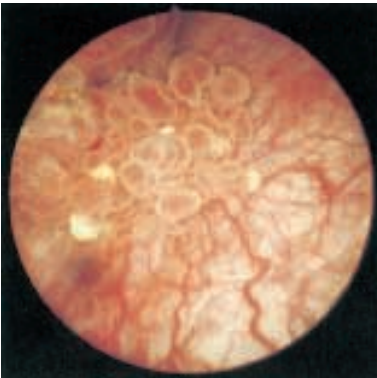
Major fields of application in urology:

- Hemorrhage-free removal of urethral strictures



- Bladder and urethral tumours

The tumour bed is laser-treated in order to stop bleeding and achieve a thorough, deep-reaching destruction of the tumour tissue. Subsequently, classical resection of the tumour tissue by using a HF loop.



- Prostatic adenomas

The Laser Cystoscope was specially developed for laser coagulation in connection with the prostate resection method developed by Prof. Aeikens. By using Nd:YAG laser light, the hitherto "bloody" process of adenoma resection is transformed into an operation that can be performed hemorrhage-free.



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Gebrüder Martin GmbH & Co. KG
Ludwigstaler Straße 132 · D-78532 Tuttlingen
Postfach 60 · D-78501 Tuttlingen · Germany
Telefon +49 74 61 706-0 · Telefax +49 74 61 706-193
info@martin-med.com
www.martin-med.com

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