High speed, maximum control. The new KEY LASER 3+

The only LASER with feedback system

The original made by the pioneers.

KaVo. Dental Excellence.

The widest range of indications in LASER treatment.

The KaVo KEY LASER 3+ is the LASER with the broadest indication spectrum on the market.

In cavity preparation, periodontics, endodontics and surgical procedures, the KaVo KEY LASER 3+ not only offers high preparation speed but also the greatest possible safety with optimal ergonomics and comfort.

The broadest spectrum of handpieces and applicators on the market allows you to use the device on almost every patient.

Low pain, sterilisation and rapid wound healing.

Through its germicidal effect, the KaVo KEY LASER 3+ can be used to treat even the most difficult periodontitis and periimplantitis cases very easily and effectively

The touch-less interaction between LASER light and tissue facilitates almost completely pain-free and atraumatic procedures. The result is very rapid wound healing without postoperative complications.

Speed through switchable pulse duration

With the new variable pulse duration, the amount of tissue removed can be ideally adjusted to the respective indication:High removal rates in enamel and dentine, gentle pulses when removing calculus near to the root support structures.

Safety through feedback

The patented KaVo feedback system permits targeted and gentle removal of calculus, even in closed curettage. In cavity preparation, it creates the conditions for safe removal, even near the pulp.

Lasting value through upgrades

All existing KaVo KEY LASER III systems on the market can be upgraded to the high-tech KEY LASER 3+ with the respective upgrade kit.
KaVo creates lasting value and reliability for many years.

Reprocessing according to RKI

The KaVo KEY LASER 3+ is one of few LASERs on the market to allow all handpieces and applicators to be autoclaved. KaVo is a reliable partner for your safety in this area as well.

Conservative therapy

Conservative therapy

- Caries preparation
- Enamel/dentine conditioning
- Sealing of fissures
- Desensitisation of hypersensitive tooth necks

Handpieces

- 2060, E2062, K2063

Applicators:

- Free beam
- Contact optical prism
- Surgery tip 50/10

Periodontics, Periimplantitis therapy

Periodontics – Closed curettage

- Removal of the subgingival calculus
- Removal of the granulation tissue
- Germ reduction
- Removal of infected bone material
- Decontamination of implant surfaces and bone bed

Handpieces:

- 2261

Applicators:

- Green optical prism
- Black optical prism
- Blue optical prism
- Blue optical prism, short
- Green cone
- Yellow periimplantitis cylinder
- Yellow periimplantitis cylinder, short
- Red surgery cylinder

Endodontics

Endodontics

- Disinfection of the root canal
- Drying of the root canal
- Vital amputation

Handpieces

- E2062

Applicators:

- Endo tip 30/28
- Endo tip 40/28
- Endo tip 50/28

Surgery

Surgery

- Apicectomy
- Frenectomy
- Exposure of the sulcus
- Drying of the sulcus or stemming of blood flood
- Implant exposure
- Treatment of herpes
- Treatment of aphthae
- Fibroma excision
- Incision of abscesses
- Treatment of extensive diseases of the oral mucosa
- Vestibuloplasty
- Incisions and excisions
- Impacted wisdom teeth
- Removal of exostoses
- Modelling of the gingiva

Handpieces:

- 2060, 2261, E2062

Applicators:

- Free beam
- Surgery tip 50/10
- Green cone
- Red surgery cylinder

All handpieces and applicators are autoclavable and therefore meet all RKI requirements.

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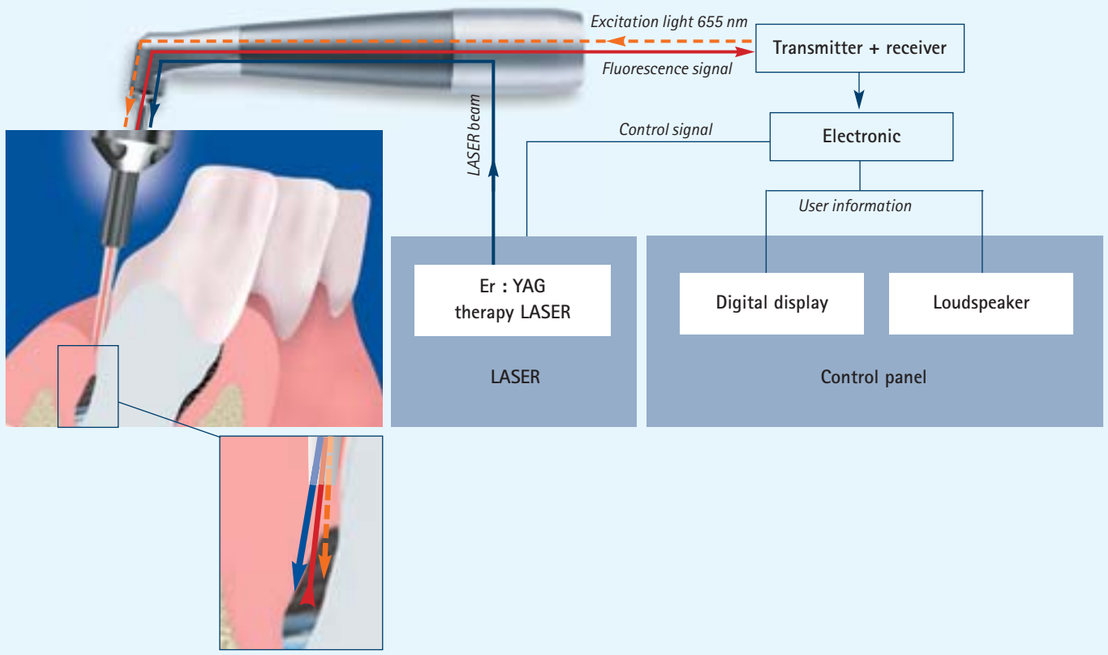
The patented feedback system for calculus removal.

In periodontics, the patented feedback system allows you to effectively remove calculus, even in cases having very deep pockets. The continuous feedback from residual calculus deposits, gives you the option to have the LASER therapy beam automatically activated when it detects any calculus and automatically deactivated upon its removal.

Or you can have the device simply emit an audible signal if you want to decide upon the extent of calculus removal yourself.

The advantage: You can perform closed curettage even in very deep pockets and still have full control.

The safety: Your therapy removes as much as necessary and as little as possible. Overtreatment is almost completely eliminated, and you can preserve the root support structures as much as possible. Further, the bactericidal effect of the LASER light effectively supports pocket decontamination.



The new KEY Pulse technology: Optimised high performance for all indications.

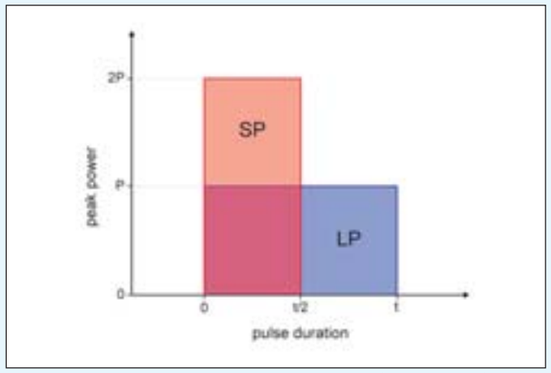
The new KEY Pulse technology was developed especially for perfect removal in all indications.

Through the short pulses (S-pulses, SP), you achieve double the performance with the same pulse energy. As a result, you can remove hard tissue at very high speeds.

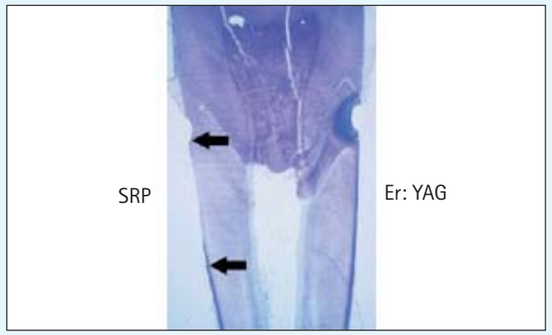
In periodontics, surgery and endodontics, longer pulses (LP) are available that specifically remove only softer calculus or the smear layer and optimally protect surrounding sensitive structures such as root cement and dentine.

When optimising the system, great efforts were made to find the ideal balance of peak pulse performance and therapeutic success.

An additional advantage: The lifespan of optical components is significantly increased through KEY Pulse technology.



The high-speed effect: With shortened pulses (S-pulses, SP), you can remove hard tissue very quickly at the same pulse energy.



The effect: For delicate procedures, longer pulses (LP) are available to optimally protect the remaining or native tissue in conjunction with the feedback system.
(Image with kind permission from Prof. Dr. Dr. S. Jepsen, Rheinische Friedrich-Wilhelms-Universität Bonn, Germany.)

You can activate short pulses (S-pulses) by simply depressing a button.

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Focussing handpiece 2060: Universal applications for a wide range of indications.

Conservative therapy:

The 2060 universal handpiece is suitable for any non-contact procedures with high removal levels. The free beam technique offers a clear view of the preparation site.

Through the absence of pressure, vibration and high temperatures at the treatment site, treatment is generally almost pain-free, so that the need for anaesthetic injections is reduced. This creates ideal conditions for children and anxious patients, and you save time.

In addition to the pure preparation of fresh cavities, lining cement and composites may be removed as well. In cases of secondary caries under gold, ceramic or amalgam fillings, the LASER is used after initial mechanical preparation, so that you can take advantage of low-pain treatment even near the pulp.

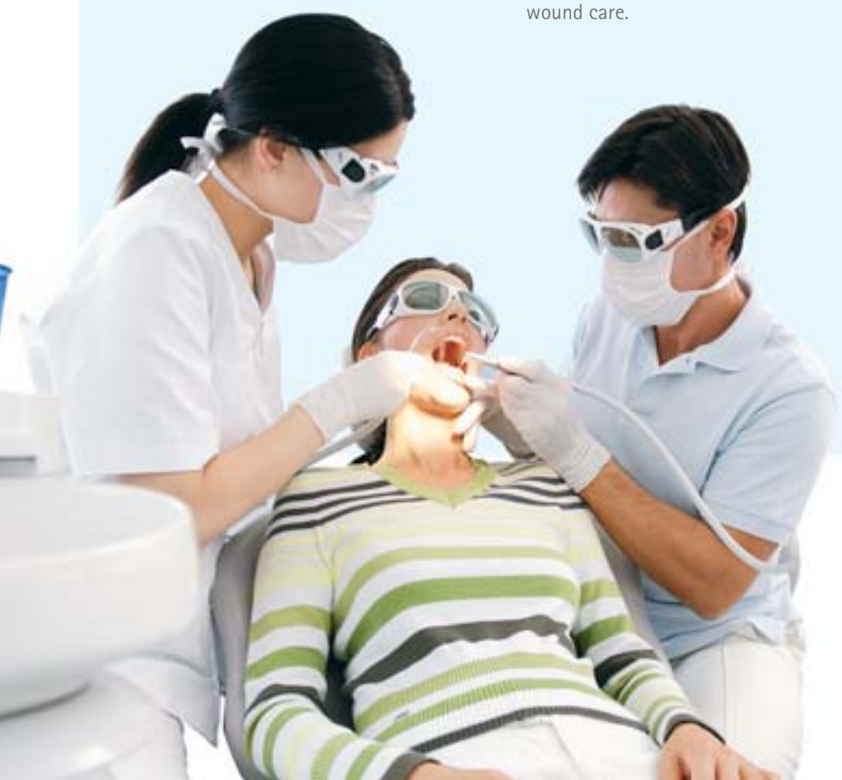
When ablating with the LASER, the treated surfaces are germ-free and free of a smear layer, resulting in ideal conditions for successful filling therapy.

Surgery:

In surgery, the non-contact, free beam handpiece 2060, permits both incisions and the removal of extensive lesions.

When focussed, you enjoy the advantage of a very fine incision, the margins of which are kept moist through the water spray. Due to the low coagulation depth, you can minimise bleeding in flap surgery, which speeds healing. In addition, the view of the surgical field is much enhanced during the entire procedure.

When the handpiece is defocused, you can either remove extensive lesions or coagulate tissue, depending on the pulse energy setting. For example, you can also contemplate treating large wounds, such as those left after vestibuloplasty, usually without further wound care.



Use:

Conservative therapy:

- Caries preparation
- Enamel/dentine conditioning
- Sealing of fissures
- Desensitisation of hypersensitive tooth necks

Surgical Therapy:

- Incisions, excisions
- Implant exposure
- Root tip resection
- Exposure of impacted wisdom teeth
- Frenectomy, vestibuloplasty
- Soft tissue management
- Treatment of herpes and ulcers
- Removal of extensive pathological oral mucous membranes

Applicators:

- Free beam

The new Perio handpiece P2261: Easy pocket access in periodontics.

NEW:
Short optical prisms are now also available for the molar area.

With the periodontic handpiece P2261, the LASER beam exits from a sapphire prism. This allows you to use the LASER directly in hard-to-reach areas, such as in periodontal pockets. Together with the feedback system, you can then achieve targeted and complete calculus removal with maximum protection of the root support structures.

In addition, you can use the applicators to effectively deepithelialise the cleaned pockets to remove infected soft tissue, promote healing and improve re-attachment levels.

Through the purely physical germicidal effect of the LASER, dental pockets are also automatically decontaminated during cleaning. Therefore, the postoperative antibiotic administration can be minimised in most cases.

For cooling and rinsing of the surgical site during treatment, all prisms feature an integrated water supply, which effectively rinses removed calculus particles out of the pocket. Through the additional combination of water irrigation and compressed air in the new P2261, the irrigation water is reliably guided to the base of the pocket, even in the maxilla.

A large number of applicators is available for handpiece P2261; each applicator has been optimised for a specific indication, e.g.:

- **Periodontics:**
  Calculus removal in periodontal pockets
- **Surgery:**
  Especially for the removal of interdental soft tissue, for the removal of extensive lesions or for wider incisions
- **Periimplantitis therapy**
  Especially for the removal of granulation tissue and decontamination of the implant surfaces, including its threads

Via a quick exchange coupling, the applicators can be quickly and easily exchanged in the new P2261, and they can each be rotated by 360° for optimal adjustment to the required position at the tooth.

Use:

Periodontics:

- Calculus removal in closed and open curettage
- Removal of granulation tissue
- Germ reduction and deepithelialisation in the pocket

Surgery:

- Targeted removal of interdental soft tissue
- Removal of extensive lesions

Applicators:

- Green optical prism - 1.65 x 0.5 mm
- Black optical prism - 1.1 x 0.5 mm
- Blue optical prism - 1.65 x 0.4 mm
- Blue optical prism, short - 1.65 x 0.4 mm
- Green cone – Ø 0.5 mm diam.
- Yellow periimplantitis - cylinder – Ø 0.55 mm diam.
- Yellow periimplantitis cylinder, short – Ø 0.55 mm diam.
- Red surgery cylinder Ø 1.1 mm diam.

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Endo handpiece E2062: For safety in endodontics.

Endodontics:

The endodontic handpiece E2062 was specially developed for application of LASER light in curved root canals. The light is guided by a flexible fibre, featuring a point-shaped exit at the distal end which offers a punctiform action.

A total of three fibre diameters are available; these are analogous to ISO diameters 30, 40 and 50 of standardised mechanical root canal files.

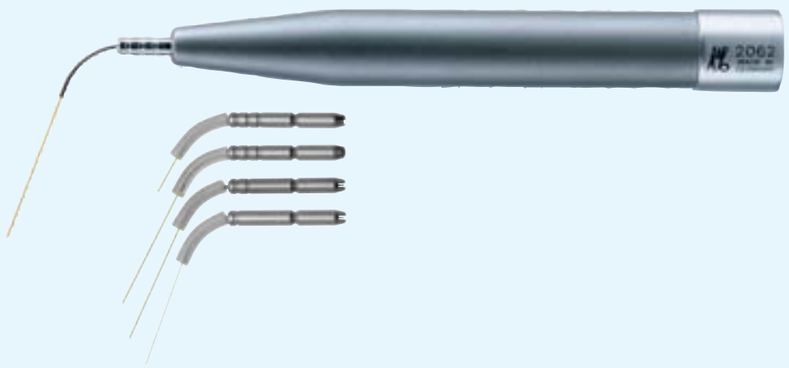
In therapy, the root canals are dried and sterilised by Erbium radiation. Further, the smear layer created by mechanical preparation and any remaining organic material is removed. Pulp amputation can be performed without toxic drug fillers.

Surgery:

In surgery, the handpiece used with the surgery fibre is particularly suitable for drying and expansion of the sulcus as well as for all types of incisions and excisions. Due to the divergent exit of the light at the end of the fibre, particularly good coagulation of the wound surfaces may be achieved.

Caries therapy:

In caries therapy, the flexible fibre of the E2062 handpiece is particularly suited to the removal of fissure caries as well as for enamel conditioning in fissure sealing.



Use:

Endodontics:

- Disinfection of the root canal
- Drying of the root canal
- Vital amputations

Surgery:

- Sulcus drying
- Incisions and excisions
- Frenectomies
- Soft tissue management and gingival modelling
- Vestibuloplasty
- Lancing abscesses

Caries therapy:

- Removal of fissure caries
- Enamel conditioning for fissure sealing

Applicators:

Fibre tips in 28 mm length for root canals:

- Fibre tip 30/28 (ISO 30)
- Fibre tip 40/28 (ISO 40)
- Fibre tip 50/28 (ISO 50)

Surgery tip, 10 mm long:

- Fibre tip 50/10

KaVo contact handpiece K2063: Offers a tactile feel, similar to when drilling.

Still unmatched

The contact handpiece K2063 allows you to work in a familiar manner, touching the tooth surface. For the first time in LASER dentistry, this gives you the option to rely on tactile feedback during preparation.

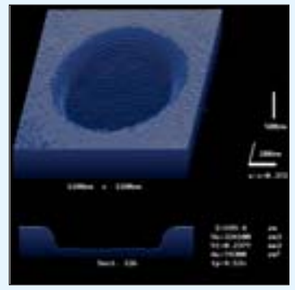
The optimised spray guidance in the contact tip ensures that cooling is always applied directly to the treatment site and that ablation products can be reliably carried away.

The contact tip's unique design guarantees a defined distance to the tooth surface. This protects the fibre tip and creates the necessary conditions for using the feedback system in cavity preparation.

The beam profile of the exiting LASER beam was optimised to a "top hat" profile,

which ensures efficient tissue removal.

With the contact tip, you can also gently slide existing soft tissue to the side, e.g. to prepare slightly subgingival, cervical caries, without needing to surgically remove the soft tissue in advance.



Removal shape ("top hat" profile) with K2063. The even tissue removal over the entire cross section of the beam, guarantees efficient cavity preparation. (Image with kind permission of Prof. Dr. R. Hibst, ILM Ulm, Germany.)

Use:

Conservative therapy

Hard tissue preparation

Applicators

Contact tip

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Perfection is in the technical detail.

Whether handpiece, foot control or applicators: The experience of Erbium pioneers is particularly noticeable in the smallest of details, that make your work easier.

Handpieces:

All KEY3+ handpieces are designed like modern dental handpieces in terms of shape, weight and ergonomics. They are quickly and easily attached to and removed from a smooth, fully rotatable coupling. There is no risky reflux of contaminated spray fluid or troublesome handling of screw valves.

Spray control:

In the KEY LASER 3+, spray is controlled with an adjusting ring at the coupling. This allows the easy regulation of the spray volume during treatment and eliminates having to touch the display with contaminated gloves, to make a small adjustment.

Hygiene:

All handpieces can be completely disassembled and cleaned quickly and easily. The removable optic components permit complete autoclaving of all handpieces and applicators, offering maximum safety for you and your patients.

Varied programs:

A special program is stored for every indication. The parameters are pre-set to individually take into account the optical conditions in the various handpiece and applicator combinations.

Every preset program can also be customised to meet personal preferences. For individual indications, 12 additional programmes can be stored, with full access to all parameters.

Flexible fibre optic system:

In the KEY LASER 3+, light transmission involves a flexible fibre optic system that represents cutting edge technology: It is light, flexible and very robust.
The patented protective covering reduces the weight by more than 1/3 compared to other systems - despite full kink protection and reinforcement for the Erbium fibre.

Independence from air and water supplies:

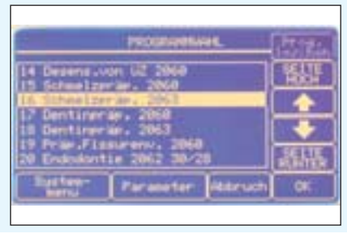
The KEY LASER 3+ possesses an onboard, completely independent air and water supply system. You only need a normal mains electric power outlet.
As a result, you are free to use the device in all your treatment rooms - and only need a very short time to prepare for the procedure.
The spray water is located in a protected bottle that is easy to reach and fill.

Multifunction foot switch:

The multifunction foot switch lets you change all important parameters with your foot. This eliminates touching the display with contaminated gloves during treatment.

Upgrade option:

Every KaVo KEY LASER III on the market can be upgraded to the new KEY LASER 3+.
Our experience thus ensures years of value preservation and technological safety for our customers.



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Overview of handpieces and applicators.

LASER handpiece 2261 – periodontics

135 °C
sterilizable

Exchangeable, colour coded light prisms in various sizes for periodontics/surgery/periimplantitis

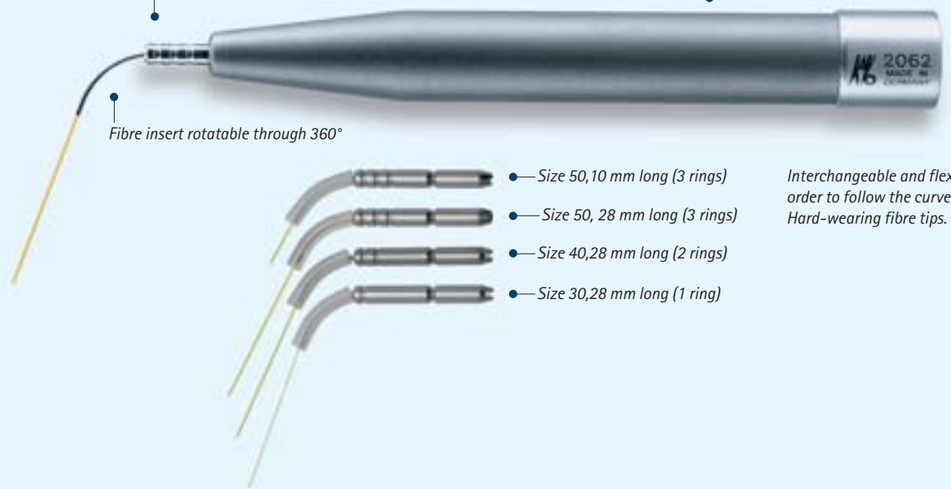
+ laser-coupling

LASER Handpiece 2060 – Caries therapy/surgical

135 °C
sterilizable

LASER Handpiece 2062 – Endodontics/surgical/caries therapy

135 °C
sterilizable



Interchangeable and flexible tips in order to follow the curved root canals. Hard-wearing fibre tips.

Contact Handpiece 2063

135 °C
sterilizable

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A leader in LASER safety as well.

With the new, light safety glasses, KaVo sets standards in LASER safety as well: Ergonomically shaped, very light polycarbonate glasses, combining high wearing comfort with sporty design, optimum fit and maximum eye protection. For reduced fatigue and concentrated treatment, even at the end of a long day.

The sporty design of the Lambda One model offers excellent eye protection for everyone who does not wear prescription glasses. With a profile adapted to the shape of the face, they securely protect the eye region from scattered LASER radiation.

The light plastic temples render the low weight of the glasses (approx. 24 g) hardly noticeable, relieving your temple and neck regions all day long.

The Dyna Guard model was developed especially for those who wear prescription glasses. With their innovative design, these glasses fit over all customary shapes and sizes of corrective glasses.

Again, very low weight (approx. 39 g) was a design requirement for these glasses. The novel temple shape ensures that the protective glasses do not push on the arms of the corrective glasses, thereby preventing tensions and headaches, even when used for a long periods.

The shape of both types of glasses was particularly designed to securely seal the lower area of the glasses relative to the cheek. This is particularly important for dentist and patient, since in both cases, scattered radiation is more likely to come from below the protective glasses; in cases of an inadequate seal against the face, LASER light could easily travel under and behind the glasses.

These glasses are lighter and offer strain-free eye protection for your patients, too.
Naturally, both types of glasses are also available for all older KEY LASER models.

Data and figures

Technical data

KEY LASER 3	
Solid-state LASER	Er : YAG LASER class 4
Wavelength	2,94 µm
Pulse energy	up to 600 mJ
Pulse frequency	2 – 30 Hz
Pilot beam	655 nm/1 mw
Power consumption	max 2,3 KW
Connections	230 V, 50/60 Hz/12A
Dimensions without swing arm	950 H x 360 B x 660 T
Weight	70 kg

KEY LASER Handpiece 2060, universal	
Sterilizable	up to 135°C in an autoclave
Non-contact handpiece with spray cooling	

KEY LASER Handpiece 2062, endodontics	
Rotatable fibre insert	through 360°
handpiece with fibre inserts	
Sterilizable	up to 135°C in an autoclave
three different fibre diameters	Size 30/28 mm long, Size 40/28 mm long, Size 50/28 mm long, Size 50/10 mm long

Beam transmission system:	
Beam guidance system:	Flexible optical fibre with one working fibre and seven signal fibres
Coupling system:	ISO quick coupling 360° with integrated media transfer (no external hose connections) and integrated spray regulation

KEY LASER handpiece 2261, periodontic	
Handpiece with sapphire applicators	
Sapphire tips	rotatable 360°, with water cooling
Sterilisable	Up to 135°C in autoclave
Exchangeable Sapphire tips	- Green optical prism, 1.65 x 0.5 mm - Black optical prism, 1.1 x 0.5 mm - Blue optical prism, 1.65 x 0.4 mm - Blue optical prism, short, 1.65 x 0.4 mm - Green cone, Ø 0.5 mm diam. - Yellow periimplantitis cylinder Ø 0.55 mm diam. - Yellow periimplantitis cylinder, short Ø 0.55 mm diam. - Red surgery cylinder Ø 1.1 mm diam

KEY LASER Contact Handpiece 2063	
Contact handpiece with spray cooling	
Sterilizable	up to 135°C in an autoclave
Exchangeable fibre tip	

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