

Klas-D **Dental LLLT Unit**



User's Guide



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Getting started

Install your Klas with the included battery and begins to get started low level laser therapy (LLLT).

Using Klas

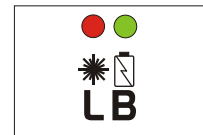
Klas can be used for treatment of diseases and conditions, follow the recommended dosage and treatment time to get the best efficacy. You can also find new information about using Klas on the web www.konftec.com.

Using the battery

- ☑ Use the battery that came with your Klas or any qualified standard battery or rechargeable battery.
- ☑ If you do not use your Klas for a period of time, be sure to take battery out from your Klas.

Klas-D81 LEDs' indication

- ☑ Klas-D81 emits the infrared laser, which is invisible. For safety operation, two LED indicators are equipped:
 - Red** LED (L) – Laser output
 - Green** LED (B) – Battery power
- ☑ If **Red** LED (L) is OFF and **Green** LED (B) is ON, please replace the batteries.



Specifications

Klas-D Dental LLLT Unit

Treatment Time Calculation Table

Dose (J/cm ³)	Depth of Tissue (cm)	Energy Loss Factor	Treatment Time (seconds)			
			Model	Klas-D50	Klas-D61	Klas-D81
			LD Power (mW)	50	100	110
			End Power (mW)	40	80	90
			Power Density (mW/cm ²)	80	160	180
1 J/cm ²	Surface	1		13	6	6
1	0.5	0.6772		18	9	8
	1	0.4586		27	14	12
	1.5	0.3105		40	20	18
	2	0.2103		59	30	26
	2.5	0.1424				39
	3	0.0964				58
	3.5	0.0653				85
	4	0.0442				126
	4.5	0.0299				186
	5	0.0203				274

- Remarks:** 1) Laser beam spot size = 0.5 cm²
 2) Energy loss is postulated to be linear at 7.5% per mm of tissue.
 3) Treatment time is calculated by Monte Carlo Simulation method.

About operating and storage temperatures

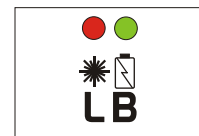
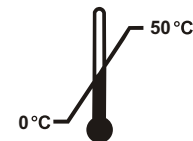
- ☑ Operate your Klas in a place where the temperature is always between 0 and 50° C (32 to 122° F).
- ☑ Store your Klas in a place where the temperature is always between -20 and 85° C (-4 to 185° F).

Troubleshooting

My Klas won't turn on

- ☑ Make sure Klas's power switch is on.
- ☑ If that doesn't work, check the position of battery in Klas.
- ☑ If that doesn't work, loosen the bottom cap and fasten again.
- ☑ For Klas-D81 only, if both LEDs' do not light, replace the new batteries.

If that doesn't work, contact your local sales office.



Learning more, service and support

There is a wealth of information about using Klas on the Web. For the latest information on Klas service and support information go to www.konftec.com

Obtaining warranty service

If the product appears to be damaged or does not function properly, please follow the advice in this booklet, and the online resources. If the unit still does not function, go to www.konftec.com for instructions on how to obtain warranty service.

Safety

Important safety instructions

Follow all instructions and warnings dealing with your Klas.

Warning

- ☑ Avoid direct eye exposure to the laser beam.
- ☑ Operation of this device, must always be supervised by an adult.



Cleaning

Follow these general rules when cleaning the outside of your Klas and its components:

- ☑ Use a damp, soft, lint-free cloth.
- ☑ Use water or alcohol to clean fiber rod.
- ☑ Don't use aerosol sprays, solvents or abrasives.



Avoid direct sunlight

Protect your Klas from long time direct sunlight.



Do not make repairs yourself

No user-serviceable parts are inside.

About handling

Your Klas may be damaged by improper storage or handling. Be careful not to drop your Klas when treating or transporting the device.

Klas-D82 Therapy Protocol

Treatment Frequency: 1 ~ 2 Time/Week

Disease / Condition	Therapy Time (seconds)	Dose (Joule)	Application	Effectiveness
Endodontics	20	4	at apex of each root	No post-operative pain
Extractions	20 ~ 40	4 ~ 8	in the alveolus	⊙ Promote healing
				⊙ Less swelling
				⊙ No post-operative pain
Herpes Simplex	15	3	per lesion; 2 times/day	⊙ Promote healing
				⊙ Less pain
Hyperemic Pulp	20	4	at the tooth's apex	No pain/hypersensitivity
Hypersensitive Dentine	20	4	at dentine (+ gel)	No pain/hypersensitivity
	20	4	at the tooth's apex	
Implants	20	4	on bone	Faster and better osseo integration
	10	2	along the flap	
Scaling (Deep)	10	2	at gingival over the pocket before scaling	⊙ Less bleeding
				⊙ Less pain during scaling
				⊙ Less pain & discomfort afterwards
Surgery	10	2	per cm of suture	⊙ Promote healing
				⊙ Less swelling
				⊙ No post-operative pain



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