

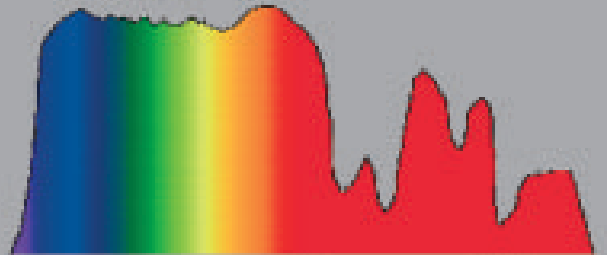


**B&P**  
Made in Switzerland  
www.QLight.ch

**Q.Light®**  
polarized full  
spectrum beam  
**WOUND CARE**

PATENTED  
**Q.Light® NT**  
NEW TECHNOLOGY

Q.Light® - always the right spectrum



385 nm                      780 nm                      1700 nm

Polarized Full Spectrum

# Q.Light® WOUND CARE

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**Q.Light® Light Therapy for general wound care and the treatment of difficult healing wounds.**

the **Q.Light® WOUND CARE** system is specially designed for the application of wound care treatments in medical practices, clinics, specialized treatment centres, nursing homes/services and for treatment at home.

The main applications for the **Q.Light® WOUND CARE** system is:

- Stasis Ulcers / Leg Ulcers
- Decubitus Ulcers / Pressure sores
- Diabetic Gangrene
- Surgical Wounds
- Injury wounds
- Burns



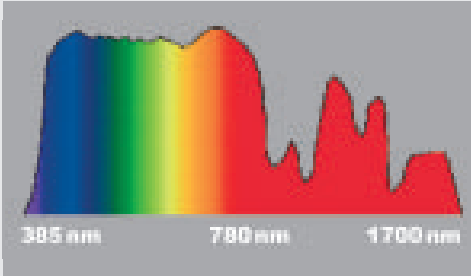
Two devices are available for wound care:

**Q.Light® WOUND CARE**

**Q.Light® PRO UNIT**



Technical features of the two **Q.Light® WOUND CARE** systems

Device Models	<b>Q.Light® WOUND CARE</b>	<b>Q.Light® PRO UNIT</b>
Digital display	no	yes
Module	fixed system	<b>wound care</b>
Treatment Area Ø standard	25 cm fixed	10 - 40 cm variable
Light Source	Patented full spectrum natural daylight light source	
Spectrum	385 - 1700 nm 	
Polarization	≥ 98%	
Visible Light emission	Visible light between 385 - 780 nm	
Infrared emission	Near infrared between 780 - 1700 nm	
UV emission	none	
Light Temperature	Optimized power distribution over the complete spectrum. Practically cold light	
Certification	ISO 9001 & EN 13485	
CE Mark	1275	

**Q.Light®**

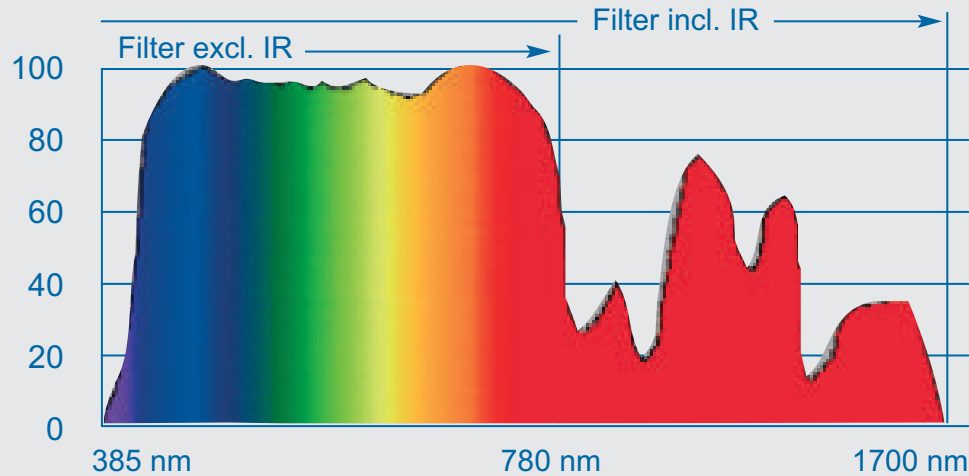
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activates microcirculation

## Light quality and power density of Q.Light® WOUND CARE systems

### Q.Light® emission spectrum with patented light source technology

Relative Transmission in %

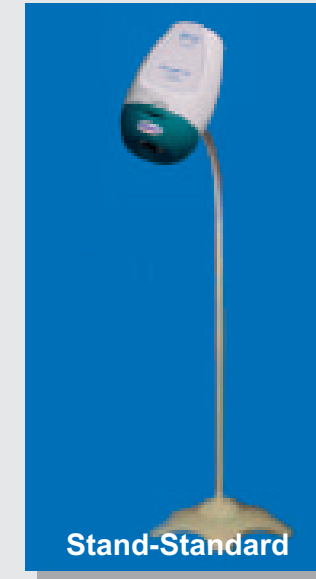
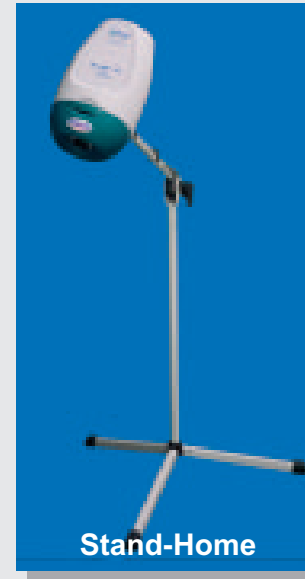


### Q.Light® - treatment parameters & treatment dose in min. with Q.Light® WOUND CARE and Q.Light® PRO UNIT

Device	Polarization-degree	Treatment-distance	Treatment-diameter	Therapy Dose in min
Q.Light® WOUND CARE	≥98%	40 cm	40 cm	5
	≥98%	30 cm	30 cm	4
	≥98%	20 cm	20 cm	3
Q.Light® PRO UNIT	≥98%	40 cm	10 - 40 cm	4
	≥98%	30 cm	7 - 30 cm	3
	≥98%	20 cm	5 - 30 cm	2

## Additional technical data Q.Light® WOUND CARE Systems

Device Models	Q.Light® WOUND CARE	Q.Light® PRO UNIT
Voltage	230 V, 50 - 60 Hz / 110 V, 60Hz	
Power Supply	50 VA max.	60 VA max.
Safety Class	II, Type B	
Average treatment Power density	40 mW/cm <sup>2</sup> , 2,4 Joule/cm <sup>2</sup> (min.) at standard treatment distance	
Weight	1'120g	1'200g
Size	260 x 158 x 173 mm (L x B x H)	
Guarantee	24 month from delivery date on	



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# always the right spectrum

## General information about **Q.Light®** WOUND CARE

**Q.Light®** Light Therapy is efficacious in all phases of wound healing, arresting inflammations, alleviating pain, activating the immune response, improving perfusion and revascularization, increasing lymphatic drainage and generally improving the metabolism.

All of these effects support the body's power of self-healing, particularly in the case of chronic wound healing disorders, since they have a significant positive influence on pathologic wound environment. Wounds can heal if newly formed capillaries increase the blood supply, if increased lymphatic drainage dissipates edemas, if an improved immune response fights infections and reactivates the metabolism. Thus, **Q.Light®** Light Therapy has a systemic effect, promoting wound healing by restoring formerly disturbed metabolic and regenerative processes.

The spectrum of **Q.Light®** Light is clearly defined: It contains no ultraviolet rays and provides consistent energy, because, unlike natural light and similar to laser light, it is not subject to diurnal or seasonal variations. Thus, its dosage can be individually determined to fit the indication concerned.

Virtually cold, **Q.Light®** Light is polarized within a spectrum of 385 to 1700 nm. Based on a power density of roughly 40 mW/cm<sup>2</sup> at treatment distance, it penetrates deep into the tissue.

**Q.Light®** Light Therapy is an enormous help for patients, doctors and nursing staff. As individual treatment sessions are very short, it can easily be integrated into standard wound care. After swabbing the wound, Light Therapy is applied for a few minutes at a time – it doesn't need more to take its beneficial effect. Side effects or contraindications have not been reported.

## How to treat wounds with **Q.Light®**

### General wound care

For optimal results the **Q.Light®** **WOUND CARE** therapy with polarized, incoherent visible and near infrared light should be applied on a daily base.

The average dose applied to wounds must be min. 12 J/cm<sup>2</sup>. The light beam is directed in a right angle to the area to be treated. Only after wounds have been properly cleaned, the patient's regenerative capacity can be activated by Light therapy, above all to redress the metabolism within the damaged skin areas. Then, wound healing takes place in three interlinking phases:

- **endogenous purification,**
- **granulation and**
- **epithelialization**

### Burn wounds

The **Q.Light®** polarized-light therapy, if applied immediately after submission, reduces the need for surgery in the treatment of deep dermal burns in many cases. Within this group of patients, the use of polarized light accelerates wound healing and allows very early pressure therapy, thus reducing hypertrophic scarring and contractures. No extension of the hospital stay is required, because of the better aesthetic and functional results, especially with burns of the hands. Polarized-light has become first therapy choice for deep dermal burns in hospitals and burn centers.



# Q.Light®

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## for best treatment results

## Systemic mechanisms of anti-inflammatory, immunomodulating and wound healing effects of visible- and near infrared light.

Research on wound healing with visible light demonstrates that influences are directed to the blood makeup through action on the superficial skin micro-vessels.

The overall action can be described as the following:

Irradiated blood is able to influence the total volume of blood in the body within a time from of 90 minutes. Continuation of changes are observed to be continued, at a slower rate, for up to 24 hours after irradiation. The dose of emitted light applied for treatment is  $12\text{J}/\text{cm}^2$  with a wavelength of 400-1700 nm and a polarisation degree of 95%.

The treatment result can be summarised as the following:

- Immediate effect on blood changes are due to transcutaneous photo-modification with a fast (30-90minute) translation of light-induced changes to the whole circulating volume of blood.
- Changes in blood cells and plasma of the entire circulating blood are induced.
- Increased functional activity of monocytes, granulocytes, lymphocytes, platelets and improves rheologic transport and gas-transport properties of erythrocytes.
- Induced lipid peroxidation levels in the erythrocyte membrane and plasma
- modified haemostasis.
- Significant is also the corresponding decreases in the plasma content of pro-inflammatory cytokines and increased levels of anti-inflammatory IL10 and IFN-g; modulated growth content factors and increased growth-promoting plasma properties for keratinocytes, endotheliocytes, fibroblasts and radiation-damaged autologous cells.

The changes demonstrated regulatory character of visible light. therapy and it's therapeutic efficacy for wound care even for difficult healing wounds.

## Visual treatment results with light therapy.



Deep second degree burn



After 2 weeks of Light therapy



Result after 9 month



Venous ulcer by submission



After 2 weeks of light therapy



Result after 2 month

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# support cell proliferation

## Research Backup on wound healing

### The effect of polarized-light on wound healing

S. Monstrey, H. Hoeksema, H. Saelens, K. Depuydt, M. Hamdi, K. Van Landuyt and P. Blondeel  
Department of Plastic Surgery, University Hospital Gent, Belgium Published:  
European Journal of Plastic Surgery – 2000

### A conservative approach for deep dermal burn wounds using polarised-light therapy

S. Monstrey, H. Hoeksema, H. Saelens, K. Depuydt, M. Hamdi, K. Van Landuyt and P. Blondeel  
Department of Plastic Surgery, University Hospital Gent, Belgium  
Published: British Journal of Plastic Surgery – 2002

### On the mechanism of enhancement of wound healing by visible incoherent polarized light: stimulation of the human keratinocyte and fibroblast proliferation in vitro by soluble factors of the circulating blood.

M.I.Blinova, K.A.Samoilova, N.M.Yudintzeva, N.M.Kalmykova: Published:  
8th Congress of European Society for Photobiology. Book of Abstracts,  
P108, p.145, Granada (1999).

### Effect of NASA Light-Emitting Diode (LED) Irradiation on Wound Healing.

Cevenini V, Stinson H, Ignatius R, Martin T, Cwiklinski J, Philippi AF, Graf WR, Hodgson B, Gould L, Kane M, Chen G, Caviness J  
Published: Journal of Clinical  
Laser Medicine and Surgery. 2001;19:305-314

## Practical experience and references with **Q.Light®**

### 2. Degree Burn Wounds on face and neck- 5 patients

Gera, Germany - Dr. Stotz,  
Profound pain reduction and optimal wound healing was achieved without practically no scar formation

### Diabetes mellitus Type 2

Nursing Home Rorschach, Switzerland  
Mr A. is born 19.10.1920 and came back to our nursing home after hospitalization with wounds on the heels.

Very good treatment results with **Q.Light®**.  
Treatment time range May - August 04



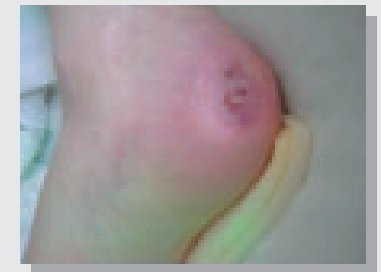
May '04: Start of treatment



June '04



July '04



Result after treatment August '04

# Q.Light®

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## for satisfied patients

## Quality certificate

**Q.Light®** Light Therapy Systems are certified active medical products based on ISO 9001 & EN 13485 and carry the CE Mark **CE 1275**



## Free Sales Certificate

This certification approved Q.Products AG to manufacture and sell **Q.Light®** Light Therapy products internationally.



# Q.Light®

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# certified medical products