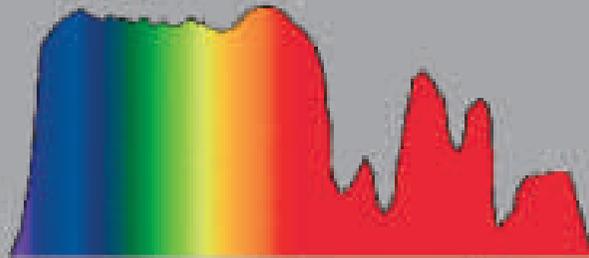




Q.Light® - always the right spectrum



385nm 780nm 1700nm

Visible Polarized Full Spectrum

Q.Light® for wound care

☑ Made in Switzerland

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:

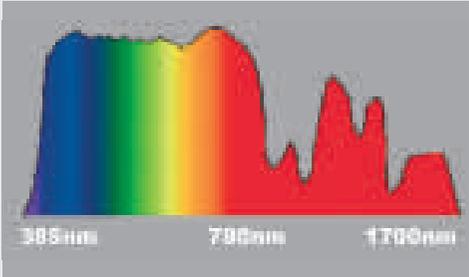
Q.Light® wound care



Q.Light® PRO UNIT



Technical features of the two **Q.Light® wound care** systems

Device Models	Q.Light® WOUND	Q.Light® PRO UNIT
Digital display	no	yes
Module	fixed system	wound care
Treatment Area Ø standard	25 cm fixed	10 - 40 cm variable
Light Source	Patented full spectrum natural daylight Krypton light source	
Spectrum	385 – 1700nm 	
Polarization	≥ 98%	
Visible Light emission	Visible light between 385 – 780nm	
Infrared emission	Near infrared between 780 -1700nm	
UV emission	none	
Light Temperature	Optimized power distribution over the complete spectrum. Practically cold light	
Certification	ISO 9001 & EN 46001	
CE Mark	1275	

Q.Light®

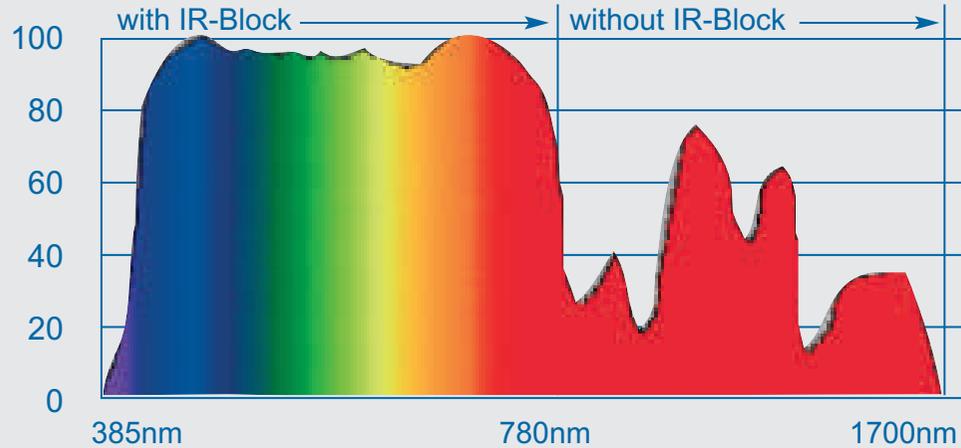
✚ Made in Switzerland

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%	40cm	40cm	5
	≥98%	30cm	30cm	4
	≥98%	20cm	20cm	3
Q.Light® PRO UNIT	≥98%	40cm	10 - 40cm	4
	≥98%	30cm	7 - 30cm	3
	≥98%	20cm	5 - 30cm	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 ² , 2,4 Joule/cm ² (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	



Q.Light®

✚ Made in Switzerland

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/cm² 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. 12J/cm². The light beam is directed in a right angle to the area to be treated. Only after wounds have been properly cleansed, 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®

✚ Made in Switzerland

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

Q.Light®

✚ Made in Switzerland

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.

Treatment time range May – August 04

Q.Light®

✚ Made in Switzerland

for satisfied patients

Quality certificate

Q.Light® Light Therapy Systems are certified active medical products based on ISO 9000 & EN 46000 and carry the CE Mark **CE 1275**



Free Sales Certificate



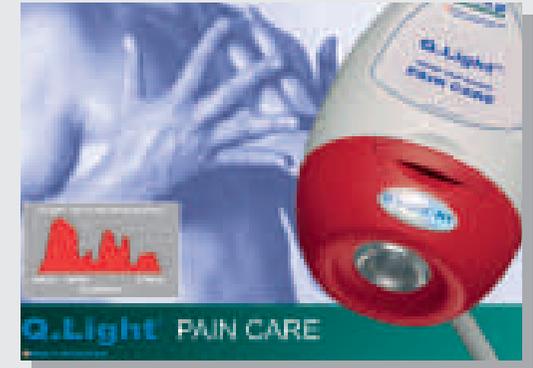
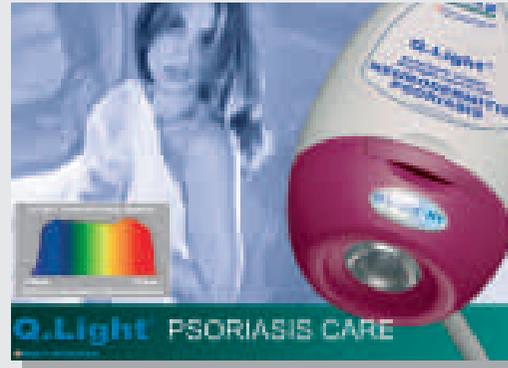
Q.Light®

✚ Made in Switzerland

certified medical products

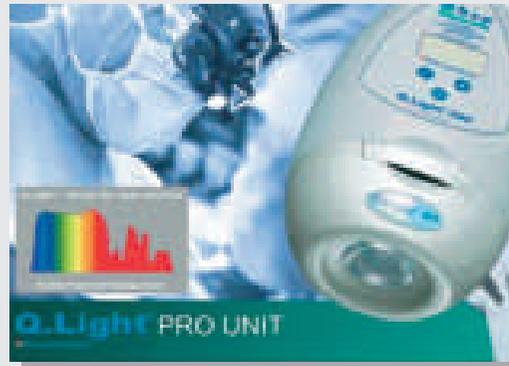
b & p® – biotechnology & photomedicine

b & p® AG develops and manufactures specialized Light Therapy Systems for professional application and for self medication at home. Additionally to our **Q.Light® wound care** systems we also manufacture the following specialized systems:



Q.Light® PRO UNIT

This product is a flexible system that works with different filter modules for specialized treatments. This means the spectrum is adapted to the specific needs, just like with our specialized therapy devices. It is the ideal product for clinics, medical practices and esthetic salons.



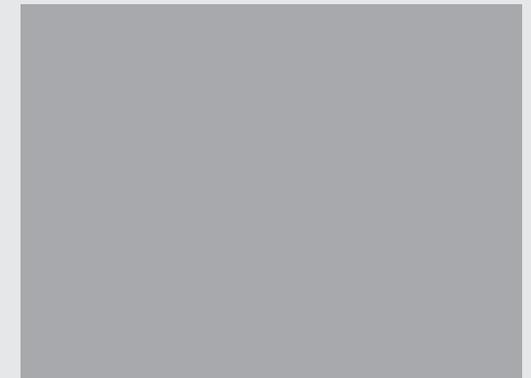
Manufacturer:

b & p® Schweiz AG

Schlossgut Wigglen
CH - 9404 Rorschacherberg

Telefon +41 (0) 71 858 20 60
Fax +41 (0) 71 858 20 61
Email info@bundp.net
Web www.qlight.info

Your Local Q.Light® Dealer:



Q.Light®

+ Made in Switzerland

specialized systems