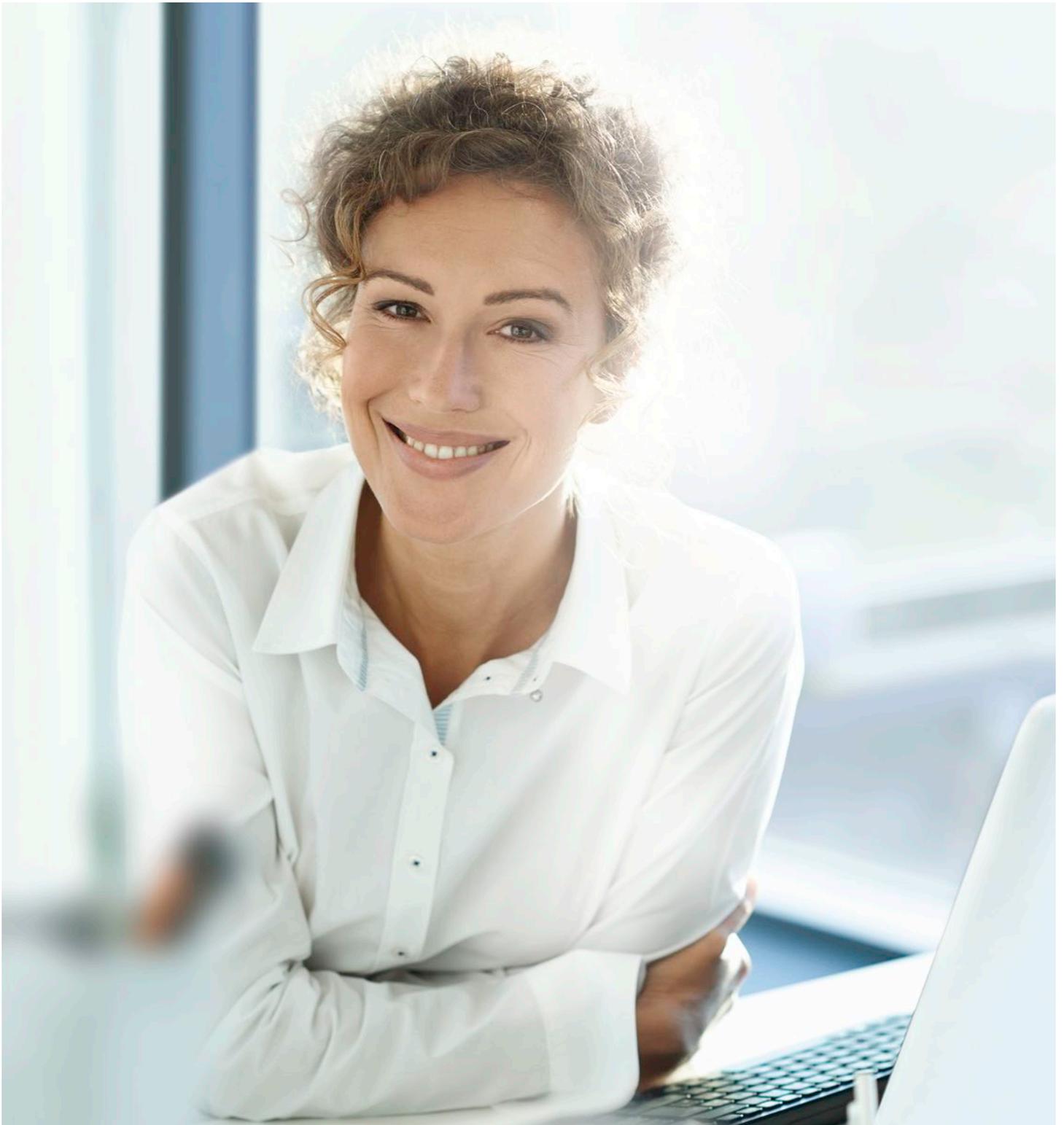
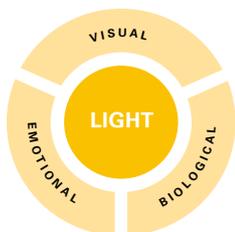

PULSE VTL

BIODYNAMIC LIGHT FOR THE MODERN OFFICE







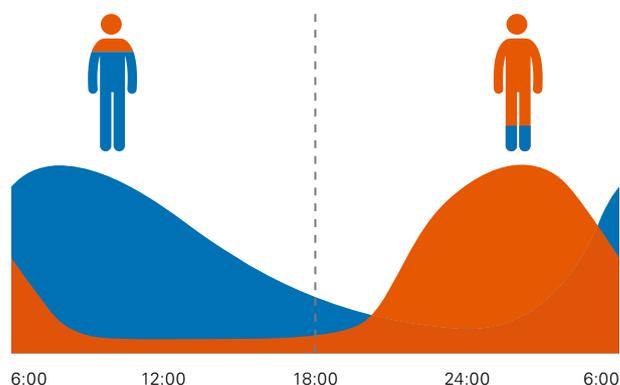
The dimensions of light: It allows us to perceive our surroundings (visual), it triggers moods through the interplay of light and color (emotional), and it positively impacts health and well-being (biological).

BIODYNAMIC LIGHT FOR IMPROVED WORKING CONDITIONS: THE INNOVATIVE PULSE VTL LIGHT MANAGEMENT SYSTEM IS A MOTIVATING LIGHT PRESENCE IN THE OFFICE. THROUGHOUT THE ENTIRE DAY.

PULSE VTL (Visual Timing Light) brings the dynamic of natural daylight inside the building and enhances the emotional and ergonomic aspects of the lighting quality. The biodynamic light can promote the well-being of employees especially in offices that get little daylight as well as in winter months when the inner body clock is only weakly synchronized with the daylight.

The innovative light management system was closely developed together with Prof. Dr. med. Dipl. Ing. Herbert Plischke, Professor for Light and Health at the Ludwig Maximilian University of Munich and employee in the Generation Research Program in Bad Tölz, Germany. Equipped with PULSE VTL, a biologically effective luminaire adjusts brightness and light color to the natural daylight for the time of day. Dynamic light is at its most effective when it enters the eye from a large source area light (indirect lighting) at the right angle of incidence (from in front and above).

LIGHT IN COOPERATION WITH HORMONES



The same cycle happens each day in the human body. The “body clock” determines waking and sleeping phases, pulse rate, blood pressure, and mood – a rhythm of biological processes that is considerably controlled and supported by light. The hormones Cortisol and Melatonin are primarily at play here. When the body lacks light as a clock or timer, this can give rise to chronic tiredness, sleep disturbance or depression.

■ Cortisol level
■ Melatonin level

Source: licht.wissen Issue 19, © licht.de



“WE RESTORE DAYLIGHT TO PEOPLE THAT IS
TAKEN FROM THEM IN THE OFFICE EVERY DAY.”

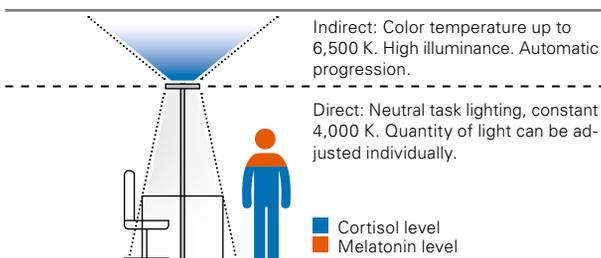
Prof. Dr. med. Dipl. Ing. Herbert Plischke



PULSE VTL simulates the natural light over the course of the day with the appropriate color temperature and illuminance. This positively impacts the production of hormones and supports the biological rhythm in a natural way.



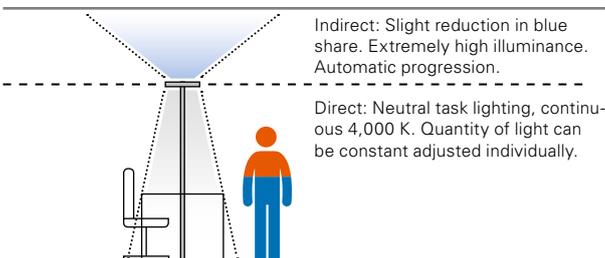
IN THE MORNING



The hormone Cortisol is produced in the body in the morning. It stimulates the metabolism and programs the body for day mode. The first light of the day suppresses production of the sleep hormone Melatonin. PULSE VTL supports the activity of the stress hormone Cortisol at the start of the working day through stimulating cold tone light and high illuminance.



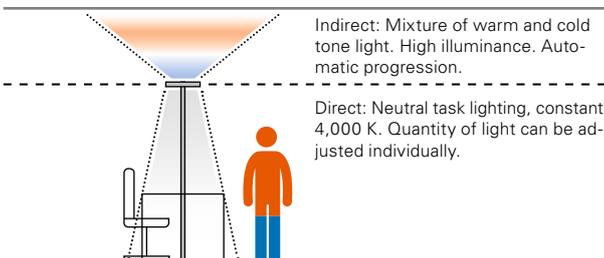
IN THE MIDDLE OF THE DAY



Levels of Cortisol decrease over the course of the day. Good performance levels are still maintained around midday. For PULSE VTL this means continuing to primarily supply activating cold tone light.



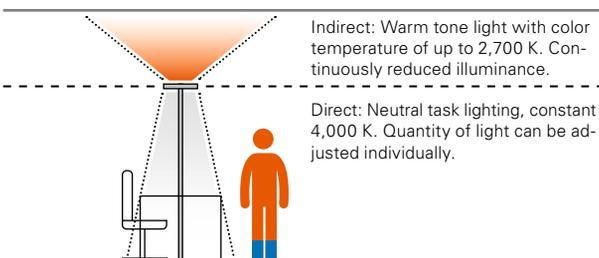
IN THE AFTERNOON



Cortisol production in the body has already slowed down considerably in the afternoon with the active work phase coming to a close. Production of the sleep hormone is not yet desirable at this time. PULSE VTL supports this transition phase with a neutral mixed light. The illuminance is reduced successively.



IN THE EVENING



The hormone Melatonin makes you tired, slows the body functions and lowers activity in favor of sleep.

If the body receives biodynamic light throughout the day, the Melatonin level at nighttime will also remain high. You sleep well, feel rested and are active and productive the next day. PULSE VTL supports the transition to the neutral phase through reduced brightness and relaxing warm tone light.





Biodynamically effective, conveniently controlled:
The LAVIGO free-standing LED luminaire combined with PULSE VTL and PULSE TALK creates a natural and healthy working atmosphere with optimal lighting efficiency.

PULSE VTL is a self-sufficient light management system. As an intelligent component in biodynamic LED free-standing luminaires (e.g. LAVIGO VTL), PULSE VTL simulates the daylight pattern.

The intensity and light color of the indirectly dispersed light from the luminaire follow a set time-dependent control curve defined on the basis of a scientific approach.

The light color varies between 6,500 K (similar to daylight, activating) and 2,700 K (warm white, relaxing). This progression most closely approximates natural light and provides a pleasant sensation for the user. The control curve is adjusted ex works. Individual default settings, such as for weekends or individual months, can be programmed in expert mode.

The share of direct, neutral task lighting can be adjusted individually at a constant color temperature of 4,000 K to ensure the best possible degree of visual comfort.

PULSE VTL COMBINED



PULSE VTL can be combined with other intelligent Waldmann light management systems. PULSE HFMD daylight and presence sensor technology reacts to people coming and going and adjusts the lighting according to the amount of daylight. Thanks to the innovative PULSE TALK wireless module, several luminaires can communicate with each other in groups. The indirect, dynamic share of light can be controlled homogeneously in groups, creating a uniform color mood. For efficiency reasons, the direct share of light remains off at unoccupied work stations and the indirect share is reduced. This creates a pleasant lighting scenario without islands of light, a better working atmosphere and, enhanced ability to perform on the part of employees.

HEADQUARTERS GERMANY

Herbert Waldmann GmbH & Co. KG
Postfach 50 62
78057 VILLINGEN-SCHWENNINGEN
GERMANY
Telephone +49 7720 601-0
Telephone +49 7720 601-100 (Sales)
Fax +49 7720 601-290
www.waldmann.com
sales.germany@waldmann.com

FRANCE

Waldmann Eclairage S.A.S.
Zone Industrielle
Rue de l'Embranchement
67116 REICHSTETT
FRANCE
Telephone +33 3 88 20 95 88
Fax +33 3 88 20 95 68
www.waldmann.com
info-fr@waldmann.com

ITALY

Waldmann Illuminotecnica S.r.l.
Via della Pace, 18 A
20098 SAN GIULIANO MILANESE (MI)
ITALY
Telephone +39 02 98 24 90 24
Fax +39 02 98 24 63 78
www.waldmann.com
info-it@waldmann.com

THE NETHERLANDS

Waldmann B.V.
Lingewei 19
4004 LK TIEL
THE NETHERLANDS
Telephone +31 344 631019
Fax +31 344 627856
www.waldmann.com
info-nl@waldmann.com

AUSTRIA

Waldmann Lichttechnik Ges.m.b.H.
Gewerbepark Wagram 7
4061 PASCHING/LINZ
AUSTRIA
Telephone +43 7229 67400
Fax +43 7229 67444
www.waldmann.com
info-at@waldmann.com

SWEDEN

Waldmann Ljusteknik AB
Skebokvarnsvägen 370
124 50 BANDHAGEN
SWEDEN
Telephone +46 8 990 350
Fax +46 8 991 609
www.waldmann.com
info-se@waldmann.com

SWITZERLAND

Waldmann Lichttechnik GmbH
Benkenstrasse 57
5024 KÜTTIGEN
SWITZERLAND
Telephone +41 62 839 1212
Fax +41 62 839 1299
www.waldmann.com
info-ch@waldmann.com

UNITED KINGDOM

Waldmann Lighting Ltd.
7 Millfield House
Croxley Green Business Park
WATFORD WD18 8YX
UNITED KINGDOM
Telephone +44 1923 800030
Fax +44 1923 800016
www.waldmann.com
info-uk@waldmann.com

USA

Waldmann Lighting Company
9, W. Century Drive
WHEELING, ILLINOIS 60090
USA
Telephone +1 847 520 1060
Fax +1 847 520 1730
www.waldmannlighting.com
waldmann@waldmannlighting.com

CHINA

Waldmann Lighting (Shanghai) Co., Ltd.
Part A11a, No. Five Normative Workshop
199 Changjian Road, Baoshan
SHANGHAI, P.R.C. 200949
CHINA
Telephone +86 21 5169 1799
Fax +86 21 3385 0032
www.waldmann.com
info@waldmann.com.cn

SINGAPORE

Waldmann Lighting Singapore Pte. Ltd.
22 Cross Street, #02-50/51
South Bridge Court
SINGAPORE 048421
SINGAPORE
Telephone +65 6275 8300
Fax +65 6275 8377
www.waldmann.com
sales-sg@waldmann.com

INDIA

Waldmann Lighting Pvt. Ltd.
Plot No. 52
Udyog Vihar
Phase-VI, Sector-37
GURGAON-122001, Haryana
INDIA
Telephone +91 124 412 1600
Fax +91 124 412 1611
www.waldmann.com
sales-in@waldmann.com